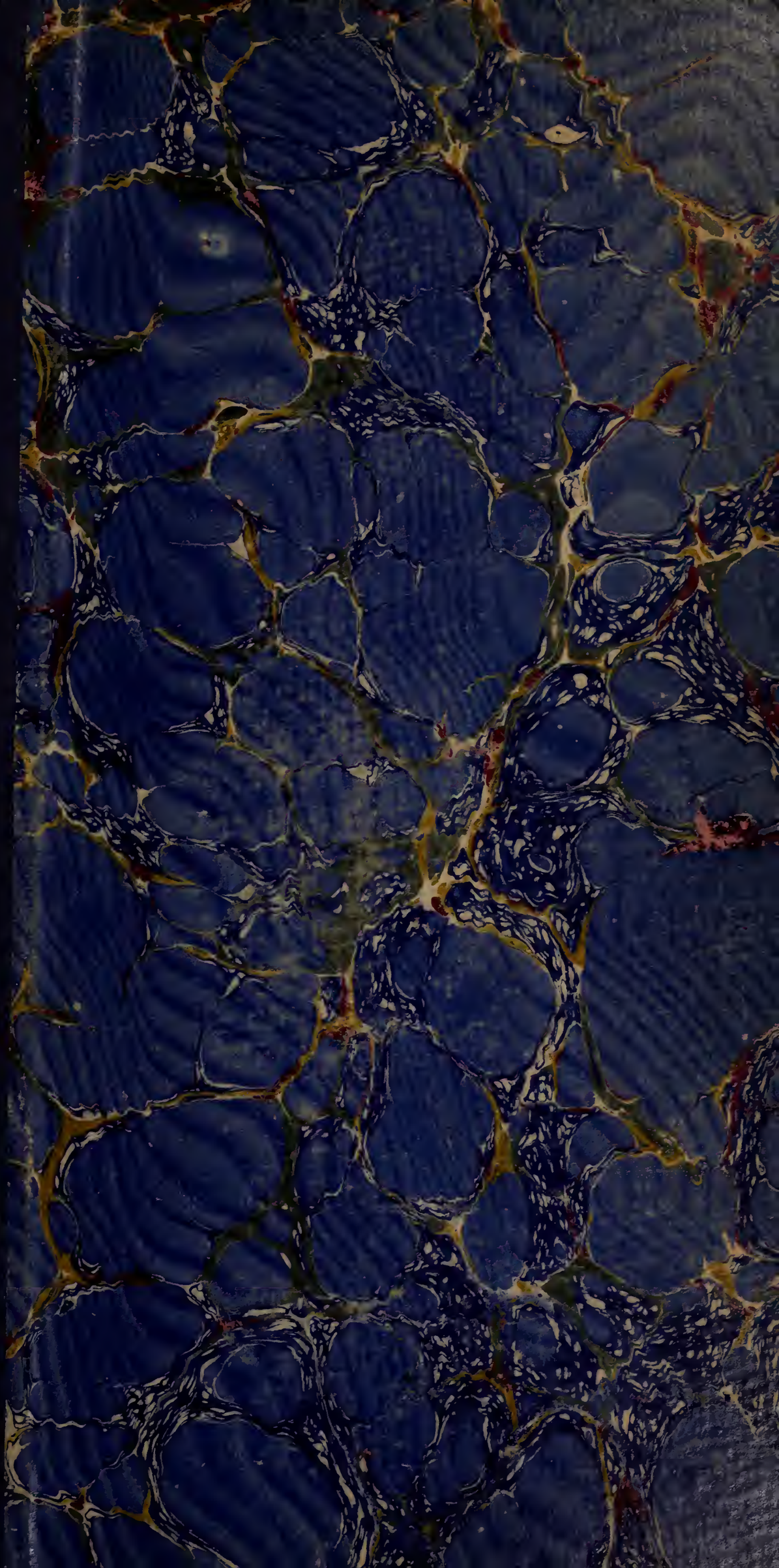

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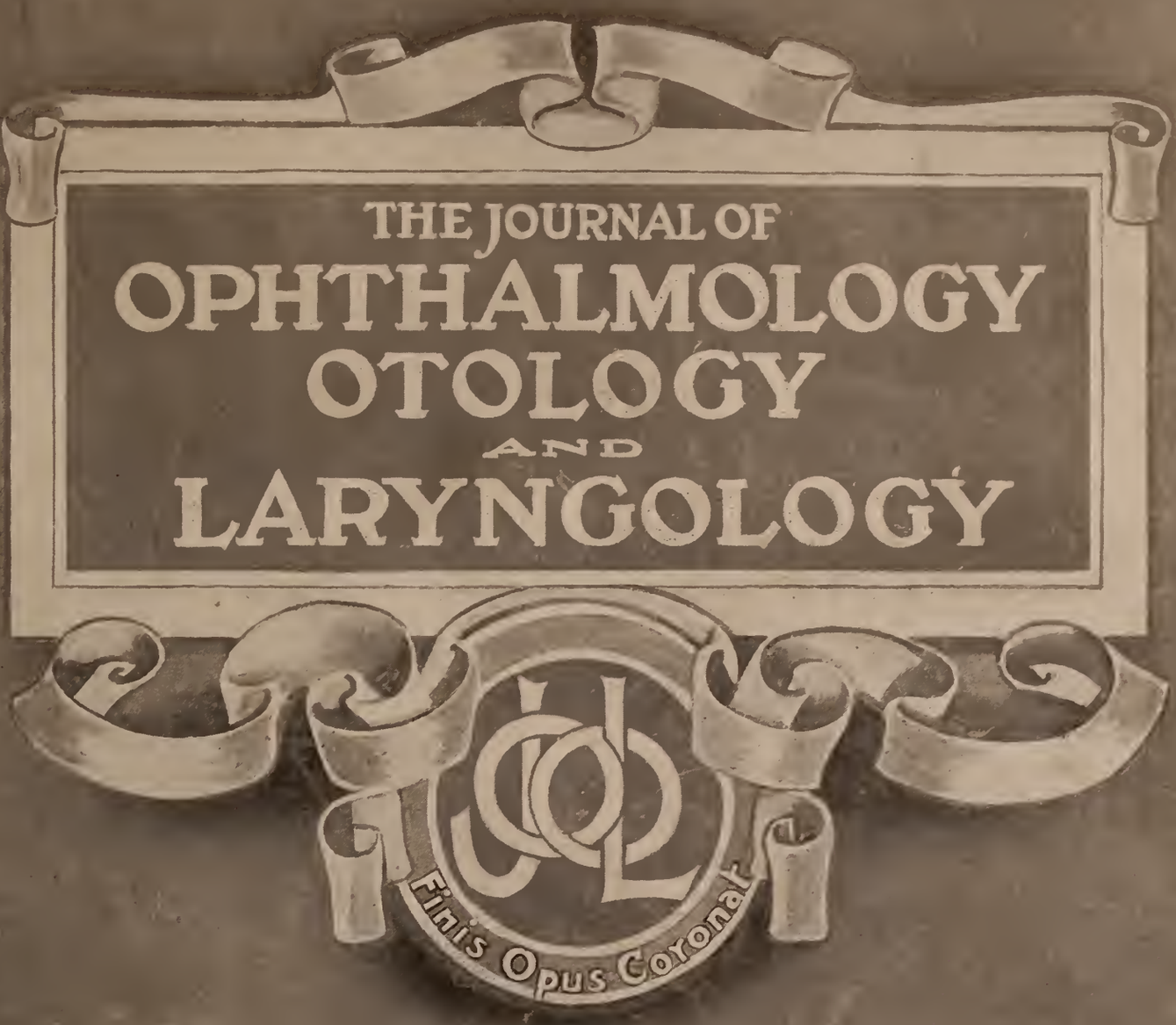

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GEORGE W. MACKENZIE, A.M., M.D.
PHILADELPHIA, PA.
President of the American Homœopathic Ophthalmological, Otological and Laryngological Society, 1920-1921

Journal of Ophthalmology
Otology and Laryngology

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Editorial

DR. GEORGE W. MACKENZIE, born in Philadelphia, September 12, 1871. Graduated from the Central High School, Philadelphia, June 26, 1890. Graduated from the Hahnemann Medical College, Philadelphia, in 1893. Started in general practice the same year, giving special attention to the eye; continued until 1904. Then took a year's post-graduate course in eye, ear, nose and throat diseases at the Philadelphia Polyclinic, followed by a three years' course in Vienna on the same subjects. He started practice in these specialties in Philadelphia in 1908. Member of the Philadelphia Homœopathic State and County Medical Societies. President of the Philadelphia Homœopathic Medical Society for the past year and re-elected to serve the second term. Member of the American Institute of Homœopathy; American Homœopathic O., O. & L. Society. Editor of the *Journal of Ophthalmology, Otology and Laryngology* since September, 1914, when it was taken over from Drs. Palmer and Moffat. Fellow of The American College of Surgeons. Member of the Academy of Ophthalmology and Oto-Laryngology, the Triological Society, American Medical Association, Pennsylvania State and County Societies, and the Philadelphia Laryngological Society. For the past year lecturer in Otology in the University of Pennsylvania Post-Graduate School of Medicine; this year appointed to the position of Associate Professor of Otology in the same school.

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OUR PRESIDENT.

THE mere outline of a biography such as appears opposite the picture of our new president, is scarcely sufficient to give an idea of how much Dr. George W. Mackenzie is appreciated by all those with whom he has been associated in the work of the O., O. and L. Society. Not only has he always stepped into the breach in times of necessity, giving his aid and his valuable counsel, but he has, at considerable personal loss, stood by our Journal when it has been passing through dangerous transitions. His open-mindedness in matters of policy, his enthusiasm and his unselfish eagerness to assist or direct cannot have been overlooked by his associates. His helpfulness and encouragement to the younger men in the profession is surely known and appreciated by them.

As a student of our science and as a capable practitioner we are proud to have at our head one who so eminently ranks with those who are "leading the way for the rest." D. M.

THE NEXT ANNUAL MEETING OF THE O., O. & L. SOCIETY.

THE place of meeting is Washington, D. C., for the best of reasons; namely, that the Institute will meet there, allowing thereby an opportunity for the members to take in both conventions during the one week. Washington offers exceptional opportunities as a convention city because of many reasons, but especially that of hotel accommodations. Washington is—as it should be—a beautiful city, worth visiting at any time. There are so many things of interest to be seen in and about Washington that the wives and children of the attending members will not want for entertainment. Besides, the entertainment is of exceptional educational value, so that there will be no excuse for members attending the convention to leave their families at home. Don't fail to bring along your kiddies, and if you have none of your own bring along your nephews and nieces.

Now for the members themselves there will be plenty adoing. It is expected that in just so far as last year's meeting excelled all others from the standpoint of attendance, character of scientific papers and discussions, and general entertainment, the coming

meeting in Washington will excel the Cleveland meeting. The prospects from every angle are exceedingly favorable. The bureau chairmen are all capable men. Dr. Haseltine, who has the Bureau of Economics in charge, reports progress considerably in excess of that which he was able to report the same month last year. Dr. McLean has taken charge of the Eye Bureau with a vim, and contemplates bringing to our meeting a celebrated ophthalmological researcher from the continent of Europe. Dr. Hetrick, who made such a success of the Ear Bureau, has been induced to repeat this year, and those of us who know him well can understand that it takes Hetrick to excel Hetrick. Dr. Sowers, of Chicago, an understudy of Haseltine, has acquired all the energy and pep of his chief. In view of these facts, together with the knowledge of the value of the re-established journal to the Society, can there be any reason why the president and bureau chairmen should not feel enthusiastic over the prospects of the 1921 convention in Washington? Those desiring to present papers before the Society should get into communication with the respective bureau chairmen as early as possible to insure themselves a place on the program.

Further details as to the exact dates of the various sessions will be announced later.

Don't fail to bring your entire family with you to Washington.

Each fellow of the Society is requested to bring in a new member. The number of new members elected last year exceeded that of any previous year. Let this year's increase go ahead of last year's.

G. W. M.

THE MODERN CONCEPTION OF ASTHMA.

IT is to be hoped that every subscriber to the JOURNAL will read critically Dr. Haseltine's paper on the subject of "The Modern Conception of Asthma," together with the discussions which follow it. To most of us at some time in our experience it has seemed that there must be some connection between hyperplastic ethmoiditis and asthma. Some of us have felt that the connection is undeniable; others have believed it, but with some reservations, while still others have denied its existence altogether. In support of the belief that it does exist the following case is cited:

A middle-aged man reported that he had been a sufferer from asthma more or less for years, but recently the attacks were nightly interfering with his necessary rest, while indirectly his general health had been materially depressed. An operation for a deflected septum, suggested by a neurologist, Dr. Weston D. Bayley, of Philadelphia, brought immediate relief from the asthma. The patient had his first night of comfort for months, in spite of the fact that he carried a gauze pack in his nose. Subsequently the anterior end of one middle turbinate was removed, but not on account of any return of his former asthmatic attacks. Five months have elapsed without a return of the asthma.

One experience like this is enough to cause one to think strongly of the probability of a relationship between asthma and faulty intranasal conditions. Again, if one meets with several experiences more or less similar to this he is bound to accept the theory of relationship. On the other hand, when a rhinologist who has come to believe that asthma is due to a more or less chronic ethmoiditis of the proliferative (hyperplastic) type, and accordingly operates the ethmoids for the relief of the asthma and fails, his belief gives way to doubt. Furthermore, when he considers the large proportion of cases of ethmoiditis in individuals who have never suffered from asthma he is liable to go so far as to deny altogether a connection between these two conditions, an extreme which is worse than the first.

Dr. Haseltine has been a consistent believer in the theory that there is a positive connection between these two conditions, and he has done a considerable amount of investigating along this particular line, with the result that he is more convinced now than he was ten years ago.

In his paper, which is well worth reading, he challenges the theories of others and offers his own as a substitute, a privilege that no one can deny another. He mentions the different forms of asthma according to the etiologic factors responsible for the condition as generally accepted.

He accepts the theory of protein anaphylaxis as generally understood, and applies it to "certain products of infection" originated anywhere within the body, and emphasizes the importance of the ethmoid region as a predilection site for such infection. His arguments are not wanting in strength. Most of us are compelled to concede to Dr. Haseltine that:

(1) A larger per cent. of individuals with chronic hyperplastic ethmoiditis suffer from asthma than do those free of ethmoiditis.

(2) A fairly large number of individuals with chronic hyperplastic ethmoiditis with coincident asthma are relieved or cured of their asthma after an operation for the thorough draining of the ethmoid cells.

However, at least two questions need to be answered before the problem of etiology is settled in the minds of most of us:

(1) Why does not every individual with chronic hyperplastic ethmoiditis suffer from asthma?

(2) Why does not every individual with chronic hyperplastic ethmoiditis with coincident asthma obtain permanent relief or cure of his asthma after an operation for the thorough draining of the ethmoid cells?

Dr. Haseltine has attempted in his excellent paper to answer these questions. Has he succeeded? G. W. M.

SPECIAL MIDWINTER MEETING OF THE O., O. & L. SOCIETY AT PITTSBURGH.

THE date selected by the Pittsburgh members of O., O. & L. Society for the midwinter meeting to be held in that city is February 6th. The place of meeting will be announced later when final plans have been made.

Tentative plans are as follows: A clinic in the morning at the Homœopathic Hospital, followed by a luncheon at the University Club. The afternoon will be spent in making plans and arranging the program for the June meeting. Dinner at the William Penn Hotel.

There may be some changes in the details of these arrangements, but the meeting is sure to be full of interest.

Don't fail to attend.

On arriving report at the William Penn Hotel.

THE MODERN CONCEPTION OF ASTHMA.*

BURTON HASELTINE, M.D.,

Chicago, Ill.

IT is now about ten years since I first called the attention of this Society to the important clinical relationship between chronic ethmoid disease and bronchial asthma. It has several times been a subject for discussion in our programs and I do not bring it up again for repetition of what has already been said. Today I wish merely to do two things: First, to point out how the theories we so long ago discussed have been strengthened by later experience and confirmed by many investigators. Second, to sketch rather briefly an outline of our present knowledge of asthma and suggest the clinical application of this knowledge.

Pathology has admittedly failed in every attempt to advance our knowledge of asthma, either as to its cause or cure, and the reason seems to me obvious: All investigations of pathological anatomy and practically all clinical observations have been directed solely to the phenomena found in the lungs, bronchi and other chest organs. Even in the few reports of known asthmatics examined post-mortem there is no word as to the study of extra-thoracic organs in possible relation to this disease. This means that the attention of pathologist and clinician is concentrated upon late results instead of primary causes which are, at least in many instances, remote from this field. The phenomenon of asthma, in-so-far as it concerns the thoracic organs, is a functional one at first, although tissue changes do so promptly result as very early to become part of the clinical picture.

The asthmatic attack, being admittedly a spasm of the musculature of the bronchi, we look for its cause in nervous excitation and search for the condition that can bring that about. It seems established that this is found in the disturbed metabolism known as anaphylaxis or sensitization to certain proteids. While this at first seems vague it squares well with clinical observation, so well, in fact, that we have come to recognize different types of asthma,

*Read at the Annual Meeting of the O., O. & L. Society, Cleveland, O., June, 1920.

more or less clearly defined and depending upon the nature of the sensitization.

One is the pollen or the emanation asthma, in which the patient is sensitive to certain plant-pollens or to the emanation of some animals (especially horses and cats). This is the least clearly defined group, being exceedingly protean and confused with neuroses of the hay-fever type. It is in this group that are found the cures from serums, potencies, migrations and "demonstrations."

Another is the food asthma, occurring usually in children, the patient being sensitive to certain ingested proteids, notably egg albumen. Last is the bacterial asthma, by far the largest group and the one we have now under consideration. It occurs at all ages, although in the very young it is perhaps less frequent than the food type, and the two may be associated. It depends upon a sensitization to certain products of infection, and presumably this infection may be located anywhere within the body. The clinical fact is that the infection which above all others tends to produce asthma is ethmoid infection, and especially of the proliferative type. It is probable that the intimate connection in nerve-supply between these two parts of the respiratory tract explains this, but the relation of chronic bronchitis to nasal infection should not be forgotten.

It is no longer necessary to speculate about mysterious reflexes. It is no longer necessary to wonder why nasal polyps are so often associated with asthma, and why some cases improve from nasal surgery and some do not. We are not now perplexed by the statement that some patients have had nasal suppuration for many years with no signs of asthma. In fact, it is now possible with considerable certainty, by study of the nose alone, to select those cases tending toward the asthmatic type and to estimate the results of treatment. Not that one would so limit himself, of course, for these cases call for the most careful study, both general and special. We have not said all when we say that we are dealing with an anaphylaxis. This anaphylaxis is no incidental nor mysterious thing, but is simply the result of a long-continued exposure to infection. These patients were toxic patients before the asthma began and they show many evidences of the fight between bacterial invasion and vital resistance. The asthmatic crisis is a toxic storm, and it occurs when the ability of the patient to eliminate products of infection is no longer equal to the load put upon him. This

negative phase, in patients already near the border line, is brought on by seemingly trivial incidents. Any interference with physiological excretion, or any blocking of pathological discharges, or the administration of foods or drugs that further burden the eliminative organs, may precipitate an attack.

Likewise, nothing else will so soon terminate the attack as the establishment of active elimination by skin, kidneys and intestine, with free drainage of the infective focus. This is why we have partial or temporary relief from such a variety of measures.

In considering the curability of asthma we must distinguish between the provocative cause and those resulting tissue-changes which may have become an important factor in the case. The patient with thoracic deformity, emphysema, scarred bronchial mucosa or myocardial changes, is crippled for life, and no rhinologist can restore him to normal. Aside from thoracic pathology the asthma patient of the bacterial type is curable just in proportion to the completeness and permanency with which we can do two things: Remove the various sources of infection and re-establish the normal physiology of elimination which has been subjected to prolonged strain.

I know of no other situation where the skill of the internist and of the specialist are more perfectly supplementary and with more gratifying results. In the ethmoid cases the problem is not a simple one, for all of them are chronic and many obstinate. Surgery is often required and it may vary from the correction of septal deformity to radical sinus exenteration, but extreme measures are very exceptional. Especially is this true with those of us who have learned Dr. Dowling's method of treating nasal infections, which adds enormously to our efficiency both in surgical and non-surgical conditions.

No asthmatic patient, however perfect his relief, should be allowed to disappear from observation completely. He should be carefully instructed as to his general hygienic régime, and should be subjected to careful examination at perhaps yearly intervals to see that no further source of infection becomes established. If a nasal case, he should be warned that the occasional condition he calls "cold in the head" is not to be ignored nor treated with aspirin, but must have skillful local attention. I have seen several asthmatics relapse after three years without symptoms, because of recurring nasal infection due to neglect. The longest time that I have

known any case to remain well without treatment is eleven years and, of course, most cases disappear from observation in shorter time than this. I have several cases in young adults where all tendency to recurrence seems to have disappeared. The subject is still so unfamiliar that few reports of final results are yet possible. It is highly desirable that we have a large number of clinical reports, not so much of immediate results as of the later history of these cases.

Discussion.

I. O. Denman, Toledo, Ohio: I cannot add to what has been said—merely wish to say I am glad to corroborate the statements that Dr. Haseltine has made. Since the suggestion of asthma being due to ethmoid infection made several years ago, we have made numerous observations, and Dr. Haseltine has investigated so thoroughly this question I feel that today he stands as an authority on this subject. It is to be regretted that the knowledge he has gained and that we have satisfied ourselves is exact, is not fully disseminated among the profession. It is unfortunate that many people still suffer from asthma when relief can so frequently be obtained.

I have two short cases to report along this line, both proven to be due to ethmoid infection. One, Miss M., who consulted me November 25, 1918, suffered from asthma for years, was able to get only temporary relief; both ethmoidal turbinates removed. Advised ethmoid operation—patient not willing to submit. Gave a series of Dowling tampon treatment, with some relief. However, she finally consented to the operation and within three months there was a complete cessation of all asthmatic symptoms. But this, I believe, would not have followed immediately had she not taken the tampon treatments.

The other case was quite similar, but I don't know that the patient would have consented to operation had she not come to the office during a severe attack. I placed a small tampon saturated with 4 per cent. sol. cocain in the hiatus; after five minutes her respiration became practically normal, and at the end of ten minutes the attack had completely subsided. This convinced her that her trouble lay in the nose, and within a few days I resected a high deflection of the septum which led very soon to her complete recovery. That is two years ago and no recurrence,

Dean W. Myers, Ann Arbor, Mich.: I don't think I have anything of particular interest to add to this discussion. The subject is so well known and has been presented so many times to this Society, that it seems almost useless to attempt to bring up anything new. However, I am glad it has been brought to our attention again, because it does seem to me that it is of sufficient importance to be renewed from time to time. Particularly is this true, as Dr. La Forge suggests, in order that we may again take the information home with us with renewed interest and enthusiasm. Local physicians or physicians in general practice are apt to overlook the importance of the ethmoid region in their asthmatic cases.

My experience has been more or less limited as I have not had a large number of asthmatics to handle in my life-time. However, my first experience was rather unusual in that it happened something like twenty years ago, and from the fact that I made the discovery that the patient's asthma had been cured following an ethmoid operation. This patient consulted me solely for the purpose of having nasal polypi removed. She did not mention having had asthma and I operated upon the nose, cleaning out the ethmoids thoroughly, without knowing of her having had it. Following the recovery from the operation upon her nose she discovered her asthma was gone, and told me of it. From that time on I became much interested in the relationship between the ethmoid region and asthma. I have had a number of cases—which I will not attempt to recite at this time—which have been very gratifying indeed. While it is my opinion there is yet a great deal of work to be done in this particular field, I also feel very strongly that we should be appreciative of the results that are being obtained at the present time. I want to congratulate and thank Dr. Haseltine for the pioneer work he has done, and the way in which he has presented the matter to the Society from time to time.

J. R. McCleary, Cincinnati, Ohio: This subject has been a personal one to me as well as theoretical. The asthmatic needs far better team-work in investigation and treatment than has been developed in the past.

Personally I may relate that after years of close office confinement, the lack of sufficient exercise, and elimination, asthma developed. Each year presented a more intensified clinical picture

without the slightest sign of amelioration. Unless you have had an attack of asthma I really question your understanding of the nervous shock and depression present during the attacks. It is unbelievable as well as indescribable.

I became interested in Dr. Haseltine's theory of bronchial asthma, and after demonstrating its value upon patients of my own I had Dr. Haseltine investigate my condition. Examination showed deflected septum with a blocking on the left side, producing constant pressure upon the middle turbinate. An operation corrected the abnormality but quite an interesting condition presented itself, as during separation of the membrane from the spur I encountered the worst attack of asthma I have ever experienced.

Completing the post-operative work and developing elimination according to normal methods has produced a cure. Just here I desire to mention these asthmatic attacks in those cases where surgery has corrected all abnormalities.

Owing to pathological changes in the tissues from the long asthmatic influences these structures are easily congested and blocked from attacks of acute rhinitis, producing again the asthmatic train of symptoms. Many times this alarms the patient, but just as soon as this field is given the suitable treatment and the proper general measures employed the asthma symptoms will disappear.

A. H. Gordon, Chicago, Ill.: I well remember that some fifteen years ago Dr. Haseltine asked me to investigate some cases of asthma that he had cured by treating their nasal difficulties surgically and otherwise. I was much impressed with the results obtained and when he presented his findings to our Chicago Medical Society, it gave me great pleasure to testify to the correctness of his views.

Then the storm arose. You know how new theories and ideas were received then. The opinion seemed almost unanimous among the doctors present that it was impossible to cure asthma by any such methods. It is pleasing to note, however, that in the last few years these same physicians have acknowledged in the main the value of his observations.

However, in the study of asthma let us not lose sight of the fact that nasal disease is only one of the causes. There seems to be a general opinion among the laity, as well as among physicians,

that very little can be done for asthma and that a change of climate is the only satisfactory way of treating it. I wish to state, that those who have adopted the new methods, undertake the treatment of such cases with great confidence, and that it is not necessary for these people to leave their homes or lose time from their occupations. They can be successfully treated where they live. No exile is necessary. This is particularly true of those who suffer from the so-called hay-fever, with its frequent asthmatic complications. A tincture of the offending plant, which in our latitude is usually ambrosia or solidago, administered in small doses four times a day for three weeks before the expected attack, which in Chicago is about August 20th, will almost invariably prevent it. If some slight symptoms appear they are easily taken care of by a few treatments at the office.

What is true of hay asthma is true of all other types of the disease. A diligent search for the cause, a removal of the same, if possible, intelligent treatment, both local and systemic, will give satisfactory results both to the physician and his patients.

Alfred Lewy, Chicago, Ill.: I don't believe Dr. Haseltine intends to claim priority for his idea of the relationship between asthma and ethmoid disease. Bosworth's "Diseases of the Nose and Throat," a favorite textbook when I was a student, devoted a whole chapter to what he calls vaso-motor bronchitis and its relationship to nasal disease. Nor can I agree with Dr. Myers when he says that medical literature on asthma pays little attention to it. From my own reading I should say that I have seen no article on asthma pretending to be at all complete that did not call attention to this relationship as one of the etiological factors.

However, Dr. Haseltine is entitled to credit for the emphasis he has placed on the ethmoid region in this connection, but there is danger of over-emphasis of this one factor. I believe that there are many factors in asthma: There is probably truth in all the theories that have been advanced this afternoon, and I am agreed with Dr. Phillips that while ethmoid infection is an exciting cause it is not a primary cause. Ethmoid operation has been frequently unsuccessful as a treatment for asthma. I know of one gentleman who through this means has lost his sense of smell, his money and his respect for the medical profession, but has not been relieved of his asthma. I also know of a lady who was advised to have an

ethmoid exenteration to cure her asthma; she obtained another opinion, was not operated, but was cured by regulation of her diet.

No mention has been made of the work of Dr. Walker, of Boston, on protein anaphylaxis. There is certainly a great deal of evidence in favor of his theory, and it is quite widely accepted. I have witnessed one striking illustration: A lady suffering from asthma, noticed that when she stroked her cat she would get an eruption on the palm of her hand. We made the cutaneous test with cat-hair protein—one of the 150 or so proteins prepared for these tests—and she immediately developed a wheal as big as half-a-dollar. She disposed of her cat and was relieved of her asthma.

Nor has anyone mentioned the work of Dr. Mark Knapp, of New York. I do not know him, but his article was published in the *New York Medical Journal,* January 10, 1920. He states that there is but one asthma—bronchial asthma, and that whatever the apparent exciting cause it is primarily dependent upon the asthmatic constitution, which is due to what he calls "pyloric insufficiency." He claims that by directing his treatment toward the correction of this he has cured four hundred cases; that it requires about 48 hours for relief and about five months for a cure. This is a tremendous claim, and if substantiated certainly demands the attention of the medical profession.

The treatments mentioned in the discussion—elimination, and for immediate relief adrenalin hypodermically—have demonstrated their value, but I wish to mention another remedy, benzyl benzoate, which I believe is an official preparation, and is also marked by Hynson, Westcott and Dunning and by Sharp and Dohme. I have had some experience with it and am favorably impressed.

A. H. Waterman, Chicago, Ill.: It is not an easy matter to attempt a discussion on asthma, as the subject immediately becomes complex owing to the fact that although there is undoubtedly a primary cause, the effect becomes so far reaching, involving so many organs and presenting so many symptoms, that each individual case is a specific picture. The cases are too numerous to go into each one at length.

I must heartily endorse Dr. Haseltine's opinions as I have had evidence of their merits among my own patients and have seen most gratifying results where one could least expect them. The one thing not to be lost sight of, however, is that the early causes

of this disease sometimes occurred too far previous to the time of attempted correction to permit of an absolute cure, for like any other disease where the infection becomes chronic it in time causes definite tissue-change. While there may be a chronic ethmoiditis present and though operation and eliminative treatment have their beneficial effect, the disease is sometimes only checked, and in some cases even this help is not sufficient to give perfect health.

Even if the primary cause is in the nasal passage the removal of this cause may not be wholly satisfactory if the patient is permitted to expect an absolute cure from a nasal operation. In almost every case the patient and the doctor must appreciate the fact that it is possible to have more than one pathological condition present at the same time. If the patient is to have a permanent cure he must not only have the original cause removed, but he must continue to receive proper care, which will permit all organs to work physiologically.

There are numerous causes for asthmatic conditions other than nasal infection, and it behooves the careful practitioner to make a correct diagnosis in the beginning, and not jump at conclusions regarding the efficacy of any one form of treatment. Having reached the decision that nasal pathology is the disturbing factor in the patient's condition, I can only advise the course as outlined. Dr. Haseltine pointed out these facts many years ago, and some of us who have been closely associated with him in his work have had the advantage of continuous observation. I know it is unnecessary for me to say that just because a patient has had an operation on the nose without relief is no positive proof that nasal pathology has been entirely corrected, and as this is a discussion calculated to show the effects of correcting ethmoid infection I wish to illustrate with one case. In this one case you will especially note that the patient was sensitive to proteins and pollens as well as having the chronic ethmoiditis. This dual condition has been observed many times, and it is more than probable that the pathological condition of the ethmoid is the reason for the sensitiveness to any foreign substance.

Patient, Mrs. F., first consulted me in November, 1915; married; age 37 years; weight, 90 pounds. Year before—weight 115 pounds; maximum weight at sixteen years of age, 145 pounds. Family history irrelevant except for father, who was a periodic

alcoholic. Patient's history was negative except for diseases of childhood, and some continued fever at fourteen years of age, which lasted all one summer. No diagnosis was made except fever. Constipation for years. Colds in head frequently. Tonsillitis frequently during childhood, but no attacks since thirty years of age. Acne vulgaris since childhood. Attacks of hay-fever first noticed six years ago, gradually growing worse and more frequent; at first only in August, then May and August. Operation on nose for deformed septum year ago and some vaccines given, with no relief, and in fact patient was positive conditions had been rapidly growing worse. She could not go into a room with flowers, and recently could use no face powder without having an attack. House-cleaning would likewise be a cause for suffering.

Examination showed a chronic ethmoiditis, simple anemia, retroverted fibrous uterus, hemorrhoids, and chronic appendix with adhesions. The patient had all the symptoms of a chronic neurotic. This patient was toxic to an extreme degree. Elimination and rest was employed for the general condition. Later a radical operation on the ethmoid was performed, since which time there has been no attack of hay-fever, and no symptom of asthma. However, her general health was not perfect until the remaining pathology was corrected. On the 5th of June this year her weight was 150 pounds and she had no presenting symptoms.

As Dr. Haseltine stated, this patient was toxic before the asthmatic storm; this fact is too often neglected and it is surprising what relief will be given if proper elimination is carried out. By proper elimination I do not mean a dose of calomel, epsom salts, or castor oil, but I do mean external and internal hydrotherapy, physiological elimination and intelligent intestinal handling. Use every means to correct metabolic faults and the autotoxic state.

In every case of infection the ductless glands are undoubtedly in an abnormal state and in many cases it is necessary to consider ductless gland therapy. Epinephrin will in most every case give relief at the time of the acute storm, but it is only palliative.

With every infectious condition there is also a condition of exhaustion—this may be to a greater or less degree. It is many times difficult to separate the symptoms resulting from infection and from exhaustion. After removing the foci of infection exhaustion may remain, and to obtain a cure it is necessary that we

secure restoration of nervous function. Rest will often do this where everything else fails.

Asthma is such a many-sided subject that much more could be said, but the practical application of the principles here advanced will prevent much of the groping that now results in such detriment to the patient.

A. W. LaForge, Chicago, Ill.: Asthma is the localized pulmonic expression of a generalized toxemia. Dr. Haseltine's definition of the asthmatic as an individual who lives in a constant state of delicate balance between toxic absorption and elimination is the most helpful statement that has appeared on this subject in recent literature. I use the term "helpful" advisedly. Heretofore the clinician has stumbled blindly along with haphazard methods, wasting valuable time in the vain pursuance of academic theories, and having no definite objective in view. Keeping his definition clearly in mind we approach the problem in a new way. We can now appreciate that the asthmatic of the bacterial type can be cured by two measures: First, by the localization and eradication of the focus of septic absorption; and, second, by the promotion of elimination of the septic products. These two factors are present in every case, and although the correction of either one may produce a temporary cure, the necessity for correcting both becomes apparent sooner or later. This was well-illustrated in certain cases referred to me by Dr. Haseltine in which no positive evidence of ethmoid disease could be demonstrated. Appropriate general measures produced an apparent cure. After a few years relapses occurred, and fully developed ethmoid pathology was found. This reveals the difficulty of locating the source of septic absorption, and it proves the wisdom of keeping every asthmatic under close supervision until a source of infection is found which is clinically adequate to explain the attacks.

The classification of asthma into its various types—food, bacterial, pollen, animal emanation, etc., is a great convenience, but we must remember that under all these lies fundamentally a metabolic defect. The individual who at forty develops his first attack may have been predestined since childhood to become an asthmatic. The respiratory crisis is but the dramatic climax to a long chain of symptoms which began in his infancy. There is a close relationship between the protein anaphylaxis of childhood, with its

urticarias, subsequent malnutrition, rachitis, lowered resistance, followed by chronic susceptibility to bacterial infections, and the ultimate development into asthma. This sequence is too common to be passed over lightly, and we are too prone to consider the first asthmatic attack as the beginning of the disease, when it really is the beginning of the end. It is the duty of the clinician to recognize these prospective candidates for asthma long before the attacks develop, and to institute such measures as will arrest their clinical progress. It is here that the essayist's definition of the asthmatic as one who lives in delicate balance between absorption and elimination becomes of such value. With this concept the clinician can now outline a definite and co-ordinated plan of appropriate eliminative measures which will go far in reducing the number or the severity of the attacks. This in itself is not enough to produce permanent cure. We must recall Dr. Haseltine's postulate, "Aside from thoracic pathology the asthma patient of the bacterial type is curable just in proportion to the completeness and permanency with which we can do two things: Remove the various sources of infection and re-establish normal elimination." The source of septic absorption must be found and eradicated, and for this long-continued observation may be necessary.

I feel that to clinicians the greatest value of this paper has been; first, in giving a concept and definition of the asthmatic which points the way to a specific and intelligently directed general treatment toward a known end; second, in having shown how to select the prospective candidate for asthma, and arrest the progressive chain of events; and, third, in enabling us to face with renewed confidence and enthusiasm a most pitiful condition which overwhelmed us with our helplessness in a time of great need.

Dr. Haseltine, closing: I wish to thank the various speakers for their most generous discussion of my paper. As I stated, I did not mean to repeat what has been said before nor to rehearse the literature on the subject, which we all know is of little practical value. I agree with Dr. Lewy that the question of priority is of small importance. However, his reference to the subject is helpful since it enables me more sharply to emphasize one point about which there is much confusion. He says he does not believe that I would claim priority in calling attention to the relationship

between ethmoid disease and asthma. For the sake of clearness let me say, that is exactly what I do claim.

Many of you are familiar with my paper on "The Relationship of Asthma to Ethmoid Disease," read before the Illinois Society in May, 1912, published in *The Clinique,* February, 1913. In that paper the statement was first made that the ethmoid is the only area of the upper respiratory tract concerned in the production of asthma. I cannot too strongly emphasize this point, now accepted by most observers. The explanation then offered, namely, the connection between the trigeminal nucleus and the ascending vagus root, still seems to be correct. Limiting ourselves to the field of rhinology it is not too much to say; if you have no ethmoid pathology you have no asthma.

As Dr. Lewy well says, nasal abnormalities have been observed in asthma cases from early times. Such a happy accident as Dr. Myers reports has been seen by many operators. Voltolini saw it twice and made a world-wide reputation by reporting it. Bosworth had a lot of good luck in asthma, and went so far as to say that nasal trouble could be found in all cases. But he never mentioned ethmoiditis, and it was this lack of differentiation that caused his work to be so much discredited by others. We have here the explanation for the many disappointments from efforts of rhinologists to cure asthma by all sorts of nose and throat surgery. If the principles brought out in this discussion are skillfully applied such diasppointments will no longer occur.

Frequency of Syphilis in the Mouth.—Syphilis in association with cancer of the tongue is approximately three times more common than in association with cancer in other locations about the mouth—14.5 per cent., or about one in seven cases. This very fact is urgent reason against protracted antisyphilitic treatment in tongue lesions which may be cancer, even in the presence of positive evidence of syphilis. Regardless of the causal relationship of syphilis to cancer, once a neoplasm has been established the prognosis is that of cancer and not of syphilis, and treating the syphilis will not affect the cancer, but will only delay urgently needed surgery.—N. A. Cary, *J. A. M. A.,* Vol. 75, No. 13.

D. M.

SOME INTERESTING EAR CASES.*

ALFRED LEWY, M.D., F.A.C.S.,

Chicago, Ill.

CASE I.—E. L., age 7, well-nourished and developed female child. Tonsils removed at 18 months; pneumonia at 4 years, with running ears; since then recurrence of ear trouble with every cold.

Night of March 11th, earache, with discharge before morning and relief of pain. March 14th, recurrence of pain.

I saw her evening of March 18th. She had pain in left ear; right normal; discharge mucopurulent; free; mastoid slightly tender; no stiff neck, Kernig or Babinski; cough; moist rales, coarse and medium; general hyperesthesia to light and noise; no urine passed all day.

Sent to Hahnemann Hospital. On admission temperature 102.2, pulse 100, respirations 24. Bryonia 2x; crowd liquids.

March 19th. Comfortable; urinated freely; mastoid tenderness gone; temperature under 100 all day. Blood examination; Hbg. 70 per cent.; red cells, 4,900,000; white cells, 5,100; neutrophiles 66 per cent.; small lymphocytes, 30; mononuclear, 2 per cent. Single sample of urine showed nothing of clinical significance.

March 20th. Temperature 103, pulse 100, respirations 20. Kernig sign and stiff neck present; no mastoid tenderness or infiltration; ear-drainage good and membrana tympani less swollen, beginning to show landmarks (local symptoms improved, general, worse). Taken to operating room. Spinal puncture showed turbid fluid under increased pressure. Mastoid exenteration, uncovering dura in middle and posterior fossae. Mastoid periosteum and cortex normal; cellular structure inflamed and containing some free pus, but no actual necrosis; internal plate normal, but removed to explore dura, which was also normal—therefore not incised. Three gauze drains and small tube inserted; Dakin sol., 1/400 dressing.

SPINAL FLUID REPORT: Cells 2400 per c.c. Cultures grew (later identified as pneumococcus, type 4). The cultures grew with

*Read at the Annual Meeting of the O., O. & L. Society, Cleveland, O., June, 1920.

difficulty and required repeated tests for positive identification. Blood examination made same day—Whites 8,300; neutrophiles 82 per cent., small lymphocytes 12 per cent., mononuclears 6 per cent.

Rx-china tincture, and later in the day hellebore, 2x.

The following day temperature below 100 all day, but headache, backache and inability to keep legs still.

March 22nd. Temperature 103; condition same. Another spinal puncture. Fluid microscopically clear and not under pressure. Cell count 1200; globulin increased. Lange colloidal gold-test showed Nos. 1, 2 and 3 colorless, 4 pale bluish-red, and beyond this negative. (This resembles the findings in paresis).

March 23rd. Condition more satisfactory; pain only now and then; mentality perfectly clear; appetite good; sleeps normally; this remission continuing until the 27th, when neck rigidity was almost gone, but there was pain in the knees with, however, no objective symptoms. Widal test at this time was negative.

On March 28th the temperature reached normal, and then shot up to 104.2, and there was increased pain in the knees. For this pain hypericum 2x was prescribed, with considerable improvement the following day as to pain in the knees and general comfort. Temperature 98.6 to 104. White blood count 6,300; neutrophiles 60 per cent.; lymphocytes 36; mononuclears 4; no malarial organisms found.

March 31st. Systolic, principally basal, murmur discovered.

April 1st. Examination by Drs. Chislett, Rawson and Metcalf, who are inclined to believe endocarditis present. This idea later given up because of lessening of murmur. On account of the wide variation in daily temperature, question of venous infection (lateral sinus) came into consideration. Because of absence of more certain evidence Dr. Chislett and I agreed exploratory operation inadvisable. Another spinal puncture showed fluid cloudy, cells 16,000; polynuclears 76 per cent.

April 5th. Fundus examination by Dr. George, who reports slight edema right disk; left negative. The following day Dr. McBean reports both fundi about normal. Dr. Boone and I also thought at this time there was no definite departure from normal.

April 2nd and 3rd there was a remission in symptoms for 36 hours, followed by another increase in fever and general symptoms. Crotalus, 6x, was now given. Another spinal puncture; fluid in-

jected into mouse resulted in death in 24 hours; organisms recovered typed as pneumococcus, type 4.

About this time patient began vomiting. Urine examination disclosed acetone, and she was put on 5 per cent. glucose solution by protoclysis. On the 8th she became stuporous. On the 9th she woke up brighter and asked for food. On the 10th deepening stupor; 11th, coma; pupils contracted and almost immobile; pulse weak, rapid; 13th, occasional sighing; 14th, Cheyne-Stokes respiration, tracheal rales. Died A. M. of 15th.

April 8th the temperature rose to 105; thereafter it remained persistently high (except slight remission on the 9th), reaching over 106 on the 11th, falling a little, but rising to 108 just before death on the 15th. This persistently high temperature suggests encephalitis, but the brain at this writing has not yet been sectioned, so the autopsy diagnosis is incomplete in this particular.

About April 3rd, when the hot pack and sponging had failed to control nervous restlessness, and before trying opiates, we had recourse to the therapeutic lamp, with considerable relief of symptoms, so that no opiate was necessary during the course of the disease.

Temperature Range.

March 18—103.
19—100, 101.
20—103, 100.
21—100, 100.
22—100, 103.6.
23, 24, 25 and 26—101, 102.8.
28—98.6, 104.2.
29—98.6, 104.2.
30, 31—100, 104.
April 1 and 2—100, 104.
3 and 4—100.2, 101.8.
5, 6, 7—100.4, 104.
8—103, 105.
9—103, 105.
10—103.4, 106.
11—106, 106.2.
12—106, 102.
13—105.5, 103.
14—104, 108.

Pulse Range.

March 18 to April 7—80 to 100.
April 8, 9 and 10—120.
11—160.
12 and 13—About 130.

This case presents an unusually prolonged course, with at least one well-marked remission; practically an absence of leucocytosis with a pneumococcus infection, at a time when the temperature-curve alone strongly suggested venous infection, and a blood-borne meningeal complication (not by direct extension).

Some clinical suggestions gleaned are: the value of the therapeutic lamp in controlling nervous restlessness and pain; the usefulness of hypericum for the discomforts following spinal puncture, and the usefulness of spinal puncture in allaying the symptoms of intracranial pressure. Whether or not the homœopathic remedies other than hypericum, delayed the inevitable outcome or contributed to the comfort of the patient is not easy to judge. Many cases of meningitis with recovery are reported in homœopathic literature, but they are not accompanied with clinical data upon which the type of disease or the nature of the infection can be determined. True, many of them were made in the days before spinal puncture and laboratory diagnoses were available, but even today homœopathic literature is weak in this respect.

E. L. Autopsy Protocol: At base of brain widespread infiltration of meninges with thick fibropurulent exudate, thickest at optic chiasm, extending along olfactory nerves, into both sylvian fossae, over apices of temporal lobes and posteriorly and downward over pons, medulla, anterior surfaces of the cerebellum and along meninges of medulla spinalis. Turbid fluid in spinal canal. Basal sinuses contain only liquid blood. In both sinuses petrosae superior, whitish smeary material.

After removal of the dura both tympanic cavities found empty and clean. Surgical openings in middle and posterior fossae uncovered; their dura unaltered. Within the surgical wound healthy looking, reddish-gray granulation tissue. As meninges of right temporal lobe are free of exudate it is evident that the basal inflammation of meninges is not by direct extension.

A few small bronchi discharge a small amount of milky, frothy fluid. Lymph nodes unaltered. Fifteen cc. fluid in pericardial sac.

Heart valves competent and unchanged. Endocardium pale-gray; myocardium pale-brown.

Diagnosis: Acute hematogenous fibrino-purulent cerebro-spinal leptomeningitis. Albuminous degeneration of parenchymatous organs. Infection due to pneumococcus, type 4.

E. L.—Spinal Fluid Reports.

March 20—Cells, 2,400.
22—Cells, 1,200, globulin increased.
April 1—Cells, 16,000, polynuclears 76 per cent.
3—Wassermann negative; bile soluble coccus.
7—1 cc. in peritoneal cavity of mouse caused death in 24 hours; type 4 pneumococcus recovered. Lange gold-test: 1, 2 and 3 colorless, 4 pale red-blue, 5 blue-red, others colorless. (Resembles paresis)

Urine—

March 30—Indican normal; occasional white blood-cell; 2 red cells, bladder epithelium; Sp. Grav. 1,008.

March 19—1,017; acid; indican normal.

April 6—Strongly acid; acetone present; indican normal.

Blood—

March 19—70 per cent. hgb.; reds 4,900,000; whites 5,100; 66, 30 and 4.

March 26—Hgb. 70 per cent; whites 10,400; 72, 24 and 4. Widal negative.

March 30—Hgb. 60 per cent.; reds 4,900,000; whites 6,300; 60, 36 and 4. Malaria negative.

April 1—Hgb. 60 per cent; reds 4,900,000; whites 8,800; 74, 24 and 2.

April 3—Hgb. 50 per cent; whites 7,400; 62, 30 and 8.

Case II.—Al. J. B., age 9. Admitted February 21, 1920. Scarlet fever one year ago, since which time has not been in robust health. Has also had measles, mumps, chicken-pox. Always develops a papular eruption after eating meat. Ten days ago had a cold from which he apparently fully recovered. February 17th profuse discharge from nose and severe earache; discharge from right ear, which is now stopped. Temperature range reported as between 100 and 102.

Present Findings: Cracked and bleeding lips, slight watery discharge from right ear; enlarged gland right cervical region.

Blood Findings: Hgb. 90 per cent.; red cells 3,980,000; whites 19,600; neutrophiles 87; small lymphocytes 9; large mononuclears 4; urine negative; temperature 101.6; pulse 110; respiration 24.

Treatment: Paracentesis, warm wet dressing over mastoid region and ear of boric solution and alcohol equal parts; arum triphyllum 3x. Temperature became normal 2nd day, and except a papular eruption such as he usually gets after eating meat, recovery was uneventful, except for the discharge from ear, which had become mucoid. Left hospital March 2nd and was treated at home by family physician.

March 8th. In the absence of the attending physician I was called about 10 P. M. The boy had had a little fever for the previous three days, and today severe headache in paroxysms, with screaming and restlessness. The neck is not stiff, but the mother stated that it had been at intervals; Kernig sign doubtful; Babinski well-marked both feet; some mastoid tenderness; no infiltration in this region. Sent to hospital and immediately prepared for operation.

Spinal puncture revealed clear fluid, under increased pressure. Mastoid exenteration, with uncovering of dura in middle and posterior fossae. Mastoid periosteum and cortex normal; cellular structure all necrotic; much softening in antrum region; dura and sinus normal in color and resilence. Gauze drain, wet dressing. Arnica and belladonna 1x. Report on spinal fluid indicated no departure from normal in cell-count or globulin.

The following day his condition was good except for restlessness. On the third day the temperature rose to 103.6, then declined to normal and remained so until discharge from hospital on March 22nd. The operative wound has since closed and the boy is in good health.

Diagnosis: Serous or aseptic meningitis.

The above case is reported by way of contrast to Case I. Many cases of recovery from meningitis reported without proper data may have been of this type.

Discussion.

George W. Mackenzie, Philadelphia, Pa.: I appreciated this paper, as no doubt the rest of you did. It covers too large a

field for one to say much by way of discussion in three minutes. Just a few remarks concerning the last case. I believe the eighth nerve was involved; also the fifth nerve, the patient having neuralgic pains—and the seventh nerve on one side. Dr. Lewy referred to involvement of the cervicals. It is possible that the apparent involvement of the cervicals was due to actual involvement of the fifth nerve. The soreness of the shoulder would, however, suggest the cervicals were affected.

Now concerning the involvement of the left side, as suggested by Dr. Fisher, I feel very doubtful. As I understand it he came to this conclusion because of the results obtained with the caloric test. I don't know how much time elapsed between the time of his test and the test made by Dr. Lewy. It should be remembered that this is not a quantity test. With the caloric test there may or may not be a reaction. If positive reaction is obtained there is function present; if you do not get reaction there is no function. In the case of a positive reaction no one can tell you how much function there is present. The condition of the patient may have resulted from syphilis. I have seen a few cases of the kind and syphilis was present in each case. One of the cases was reported by Ruttin; the same case was studied by Neumann and myself, but each independently. I was led to think of syphilis in this particular case from the fact that the sister of the patient whom I met in Fuchs' eye clinic was there for the treatment of interstitital keratitis. With this as a hint I went back to the case with the object of studying it for signs of syphilis, and sure enough the signs were present in abundance. These factors were overlooked by both Ruttin in his report of the case, and by Neumann. This case was so impressed upon me from the diagnostic standpoint as one of multiple neuritis superioris first described by Frankl-Hochwart that it made me keen in recognizing subsequent cases. Again the discovery of hereditary lues in the case prompted me to look for evidence of syphilis in other similar cases and I was rewarded in finding it. I would not like to leave the impression that syphilis is always present in these cases, for there are many other causes that can produce it. Nevertheless, it is so common a cause in just this form of neuritis that I believe it should be the first thing to be considered.

Dr. Lewy: I thought of that but the doctor who had been treating her had a Wassermann made and it was found negative.

Dr. Mackenzie's suggestion that there was gumma present occurred to me, but we believe that our tests ruled that out.

Dr. Mackenzie: What I want to know, doctor, is, what was the transfusion done for?

Dr. Lewy: Pernicious anemia.

Dr. Mackenzie: Pernicious anemia can produce neuritis of the eighth nerve. Furthermore, anything that can cause hemorrhage elsewhere can cause hemorrhage into the internal ear. I was thinking when you were citing the case that the transfusion might have had less to do with the aural symptoms than the disease which prompted the transfusion.

Politzer's Library Presented to University of Vienna. —Prof. A. Politzer, whose death was recently reported, has bequeathed his extensive and unique library of works on otology to the university with which he had been connected from 1861 to 1907.—*J. A. M. A.*, Vol. 75, No. 14.

Effect of Tonisllectomy on the Recurrence of Acute Rheumatic Fever and Chorea; A Study of Ninety-four Children.—Wm. St. Lawrence, *J. A. M. A.*, Oct. 16, 1920: Dr. St. Lawrence's article is most thorough in covering carefully a large number of cases over an average period of three and one-half years. Thirteen per cent. showed marked hypertrophy of the tonsils; 69 per cent. moderate; 18 per cent. no hypertrophy. Enlargement of the lymph nodes was reduced 41 per cent. by tonsillectomy; "sore throat" recurred in only 7 per cent. of the cases after operation; 84 per cent. showed no recurrence in rheumatic fever attacks; 50 per cent. of the chorea cases cleared up. Toleration in cardiac disease was improved, and only one case suffered a recurring attack. Nutrition and general health were improved and intercurrent disease was less common after the tonsils were removed. D. M.

Don't forget the Special Midwinter Meeting at Pittsburgh, Sunday, February 6th.

RADIUM AND OBSERVATIONS OF ITS EFFECTS IN A CASE OF LARYNGEAL CARCINOMA.*

G. J. Alexander, M.D.,

Philadelphia.

WITHIN the past ten years a great deal of attention has been given to the study of the therapeutic value of radium in the treatment of malignant neoplasms in the various parts of the body; while these efforts have been attended with more or less success, they have not been without a certain proportion of failure and disappointment. The work, however, is advancing, and in view of the fact that surgical results, especially in the larynx, are uniformly bad, and that the science of radium therapy is steadily progressing, it is consistent to anticipate greater things for the future in regard to the use of this method of combating malignancy.

With radium, by means of the phenomena of radiation, there is produced upon tissues what is termed a reaction, without a sufficient amount of which there can be no therapeutic effect. This reaction manifests itself in two ways: (a) the inflammatory reaction, and (b) the selective or non-inflammatory reaction.

(a) The inflammatory reaction is the result of an unexpected inflammation or even a burn, due to an error in dosage or screening.

(b) The selective reaction, or non-inflammatory. Through this is obtained cellular modifications and clinical results without producing inflammation, for the reason that certain diseased tissues can be modified without being subjected to any inflammatory reaction, because they possess special receptivity to the rays, and greater sensitiveness than that of normal tissues. Thus the normal tissues surrounding the diseased cells can be subjected to the same or even larger doses of radio-activity, and remain unaffected, at least in outward appearance. Therefore, sensitive tissues, deep-seated under the skin, can be modified without any visible change in the cutaneous tissues. Thus it has been found that malignant tumors are very decidedly sensitive to and receptive

* Read at the Annual Meeting of the O. O. & L. Society, Cleveland, O., June, 1920.

of radium rays, and that a dose of radio-activity sufficient to modify cancerous tissues would produce neither change nor inflammation of the healthy tissues through which it passes.

A third result from the use of radium in morbid affections is known as radio excitation, or stimulation, and is the result of giving it in too small doses, 25 to 50 mg. being the preferable minimum amount of the element to be used. And two thousand milligram hours is considered the relative maximum dose for one series.

In a recent paper read before the Philadelphia Homœopathic Medical Society, Dr. Frank Benson, of the Hahnemann Medical College and Hospital, gave a definition of the effects or action of radium, containing just three words, and which, I think, contain a whole volume of information. He said it is palliative, alterative and curative. Now for this agent to be either a palliative or a curative, it must be an alterative, which means that to become the latter, the malignant cells are destroyed and a fibrous deposit formed, causing a fibrous transformation of the tumor; this is most beautifully demonstrated in a specimen in the pathological laboratory of the Hahnemann Medical College of Philadelphia.

It should always be remembered that before beginning the treatment of malignant neoplasms of the larynx with radium, it is necessary to do a preliminary tracheotomy.

There are three methods of applying radium for the treatment of a malignant growth in the larynx; namely (1) in the larynx, on the growth; (2) externally on the neck around the larynx, producing what is known as the cross-fire effect, and (3) by means of radium needles introduced from the outside of the neck into the tumor of the larynx. Of these, Dr. Benson, by reason of being able to place the element in direct contact with the growth, favors the intra-laryngeal method and opposes the needle method on the surgical principle of excitation of the growth by traumatism, the uncertainty of infection, and of placing them in a proper position in the growth, in which I concur, though Dr. G. E. Pfahler thinks there is enough depression to the tissues of the growth and enough adherence of the tissues to the needles to prevent any danger of increased rapidity of the growth by injury to the morbid tissue or its vessels.

It is a fact that a given amount of radium will cover only a certain limited area; for example, 50 mg. can cover only an area

the size of a silver quarter at a distance of 5 cm., and herein lies a certain per cent. of the difficulties and failures in its use, especially in a location so inaccessible as the larynx, for to get a curative result every portion of a growth must be included in the treatment. If on the other hand, all of the growth is not included, there is likely to occur the stimulating or exciting effects of the less concentrated rays surrounding the margin of the more concentrated ones, causing an increased rapidity in the progress of the growth.

The size and stage of advancement of the tumor are other very important factors to be reckoned with; for instance, when the growth is in its incipiency, the prognosis is far more favorable than when in the advanced stages.

Prognosis is also greatly influenced as to whether or not there is any lymphatic involvement, because if there is, the condition has ceased to be a local and has become a systemic one. In such a condition as much—or more—treatment should be directed toward the lymphatic condition as to the original growth *per se*. In such a case the alterative action of the radium rays should be directed upon all the involved lymphatic glands as well as upon the primary growths, the results of the treatment upon the metastatic adenopathy being particularly gratifying and successful.

The following case of carcinoma of the larynx has been under my observation for six months and has provided a splendid opportunity to study clinically the effects produced upon the growth, the metastatic adenopathy and the patient generally, by the application of a number of series of radiation placed on the neck over the larynx and over the involved lymphatic glands, by Dr. G. E. Pfahler. It is, therefore, by relating a few of my observations in as consecutive a manner as possible that I hope to construct a clinical and practical foundation for the above more or less didactic structure.

Mr. C. E. F., age 46 years, while living in East Orange, N. J., two years ago first had what was diagnosed as an attack of pharyngitis and laryngitis; with this and several other similar attacks within a couple of months, there was difficulty in swallowing, which seemed to be caused by a sack being pulled down into the esophagus, causing on several occasions choking spells while eating; he noticed at the same time that the obstruction seemed worse on the left side.

Efforts were now made by Dr. Chevalier Jackson, Dr. Hobart

Hare, and Dr. Watson to establish a diagnosis and a course of treatment. Specimens taken from the esophagus and trachea were negative. Wassermann negative. Blood pressure and analysis normal; fluoroscope from waist up negative, and roentgenograph of throat showed no involvement. Potassium iodid and large doses of mercury followed, resulting in a severe mercurial poisoning. Finally malignancy of the larynx was decided upon and the patient referred to Dr. G. F. Pfahler for roentgen ray and radium treatment; the larynx was said to have been pronounced normal by Dr. Jackson four months later but recommended continuance of the treatment as a precaution against recurrence.

Five months later (April, 1919), difficulty in swallowing again appeared and he was given mercury to the point of poisoning even more severe than the first time. He then called in Dr. J. P. Van Keuren, of Chester, Pa., who gave him Calc. sulph. and after two months of subsequent treatment he was in the best physical condition he had been for ten years, all throat symptoms having disappeared. This lasted one month, when he went back to business, caught cold, resulting in inflammation of the vocal cords and aphonia, regaining his voice later but with permanent hoarseness followed by a frothy mucus in the throat, coughing, and a slight loss of weight, and almost constant pain or sore feeling under the left ear extending at times down the neck. On taking cold or from any irritation there is soreness on the left side of the neck in the region of the larynx. At this time (November 18, 1919), Dr. Van Keuren referred the patient to me for an examination and opinion.

Examination.—Neck: There is a general thickening and induration under and including the sterno-cleido-mastoid muscle. To the left of the larynx there is an indistinctly outlined mass the size of a hen's egg, slightly movable, and not tender to palpation. Ear: Negative. Nose: Deviated septum. Mouth: Teeth in good condition; submerged, diseased tonsils. Pharynx: Subacute pharyngitis. Larynx: All parts are redder and thicker than normal, with special involvement of the left side, as follows: Circumscribed enlargement of the arytenoid, another circumscribed enlargement the size of a large bean, on the aryteno-epiglottic fold behind the epiglottis, tapering out into the pyriform sinus, and a third enlargement, size of a lima bean, including the ventricular band and the vocal cord, with practically no motion of the arytenoid and left vocal cord.

December 3, 1919.—All portions of growth on the left side of larynx are decidedly larger, more red and angry-looking, together with slight swelling and redness of the right ventricular band. Swelling on the neck is larger and induration greater. The patient has today finished a series of radium and roentgen ray treatments in the following order: Radium 100 milligrams used in an eight-hour treatment; 50 mg. on each of two points for four hours; then removed to two other points for four hours, the same dose being repeated three days later. Following this four days later he received the first of a series of five treatments at three-day intervals, of roentgen ray, using 48 milliamperes for ten-minute exposures.

December 12, 1919.—There is a perceptible decrease in the redness, swelling, and size of all growths or diseased tissue, and some edema of the inter-arytenoid tissues. The involvement of the left side of the neck is softer, smaller, rather sharply outlined, and the lower portions very tender to palpation.

December 27, 1919.—The patient has been to the Mayo Hospital on the advice of anxious friends, but received no further information regarding his condition. All diseased tissues of the larynx look slightly more like the normal in color; the growths are smaller; there is less hoarseness; the patient is gaining strength and weight, and feels good.

February 9, 1920.—Soon after my last observation the patient received a 72-hour series of radium treatment to the primary growth in the larynx and the metastatic involvement of the neck, using 150 mg. of radium, the equivalent of 10,800 milligram hours, the radium being placed over the diseased glands in the neck and outside around the larynx, producing a cross-fire of rays into the larynx.

This treatment was followed by edema of the larynx, demanding tracheotomy, which was done by Dr. Van Keuren. Associated with the edema was a high temperature, a sort of septic condition, prostration, collapse, and semi-consciousness, simulating acidosis, and the patient thought to be passing away. However, he rallied and survived. Since then there has been increased hoarseness, a raw burning feeling in the larnyx, and shooting pains to the left ear and shoulder.

Examination today—or about six weeks later—shows that the larynx has practically become free of all inflammatory conditions noted at the last observation. Instead there remains a dis-

tinctly outlined irregular growth, resembling a mass of adenoid tissue, containing three well-defined furrows or constrictions, extending forward from the left arytenoid over the posterior half of the ventricular band and vocal cord, the color of the mass being that of normal mucous membrane. The left side of the neck is soft, free of tenderness and any abnormal appearance.

February 20, 1920.—Condition in larynx again showing signs of activity, and a 24-hour application of 200 mg. upon the lymphatic glands was completed today.

March 8, 1920.—Growth fills up the entire left side of the larynx, no visible anatomical outlines remain and no motion of the left arytenoid or vocal cord. Progress is again noticed on the right ventricular band, including the vocal cord.

March 19, 1920.—Eleven days ago eight applications of roentgen ray were projected through the larynx at different angles and on the neck; four days later three applications were made to the same localities. This caused nausea and anorexia, which lasted three days, difficulty in swallowing, profuse frothy mucus and a feeling of general congestion, similar to that which accompanied the large dose of radium two months ago. Appearance of the larynx is about the same, except for increasing activity of the morbid condition on the right side.

April 1, 1920.—Two weeks ago received another 21-hour series of radium treatment placed over the glands and larynx, using 200 mg. of radium, which set up a severe dermatitis, with marked soreness and discoloration of the skin, and the disappearance of nearly all evidence of glandular involvement. There were the usual general disturbances followed in four days by an attack of hiccoughing, which was controlled by morphine after three days' duration. All disease processes in the larynx are progressing, and the epiglottis has started to tilt to the left side.

April 12, 1920.—The patient looks fairly good and says he feels good, though there is increased coughing, mucus, and more pain on swallowing; condition in larynx same.

May 6, 1920.—Enlargement of some of the pre-cervical glands on the right side has taken place and corresponds with a decidedly more active condition on the right side of the larynx, all parts being greatly swollen, and the arytenoid larger than the left one, causing a further decrease in motion; he complains of burning in right side of the throat on swallowing food, particularly liquids.

Ten days ago there was another series of radium applications to the left side of the neck, 200 mg. having been used.

At this particular stage I am inclined to believe that the increased rapidity of the morbid conditions in the larynx is at least partially due to irritation caused by large and rather frequent doses of radiation.

May 26, 1920.—One week ago he suddenly became weaker, discouraged, and discontinued working in his garden and attending to other little things that formerly interested him. There is impaired appetite, difficulty in eating, liquid food regurgitates if he does not hold his head back, some emaciation, increased hoarseness and coughing, restlessness in early part of the night, a feeling of restriction in the throat, increased mucus in throat, and no pain or particular soreness in the larynx.

Examination shows great advancement of the laryngeal conditions. The arytenoids are very large and apparently fused and stationary on phonation and inspiration; all anatomical outlines of lateral walls of the larynx are lost, the epiglottis is tilted backward and to the left side, the color has become more like that of normal mucous membrane, and on the right subglottic wall there is a small oval-shaped gray area, suggestive of broken-down tissue. All affected portions of the neck are thickened and hard, and all glands are enlarged, hard, and sore to the touch, and the patient I believe to be making the last stand for his life.

Thus this case has undoubtedly furnished a valuable opportunity to observe and study a number of the important features associated with the treatment of malignancy of the larynx by radium, *i. e.,* we have seen the palliative effects, local and general, following the non-inflammatory reaction, the local and general irritating effects of the inflammatory reaction, and had special opportunity of seeing the local and general effects of a toxic or overdose. Too, we have observed that, as in the experience of others, the diseased glands were more receptive and susceptible to the rays, causing a more rapid and permanent influence upon them than upon the primary growth in the larynx.

In the larynx could be beautifully demonstrated the following cycle: The reaction, its congestion and increase in size of the parts, followed by a pale, more normal color and a distinct decrease in size, this stage again giving way to congestion, edema and

increase in size, due to the influence of re-continued activity of the recuperated neoplasm.

The shrunken state of all malignant tissues and their pale color associated with a period of quiescence or rest, together with easing of symptoms following the normal reaction after an exposure to radium are the features, in my judgment, at least, that determined the palliative results of the radiation.

In conclusion, I beg that it be understood that I have tried to present the subject in the capacity of the laryngologist not presuming to trespass upon the field of the radiologist; and that any possible inaccuracy as to the series of treatments, dosage, etc., be overlooked, in that I was obliged to depend entirely upon the patient, although an intelligent man, for information referring to the applications and use of the radium, during the course of my observations.

1831 Chestnut Street.

Discussion.

Rollin Stevens, Detroit, Mich.: Mr. Chairman and Members of the Society, I feel as though I ought to apologize for taking so much time on the program. However, I want to express my appreciation for this meeting. The papers have been exceedingly interesting.

Radiotherapy of malignant neoplasms is becoming more and more a matter of general knowledge and, in my opinion, surgery should now be an adjunct to radiotherapy rather than radiotherapy an adjunct to surgery. The greatest difficulty in the treatment of carcinoma through the air passages is the difficulty that has been demonstrated in this case, that is, the resulting edema and inflammation. In order to get sufficient dosage to give relief, it is necessary to do considerable damage to the mucous membranes and sometimes this may be very serious, as was well demonstrated in this case.

Another difficulty we have in radiotherapy is the intoxication that results from large doses. That intoxication has been described by many authors as an acidosis, as was stated by Dr. Alexander in his paper. Personally, I don't think that satisfactorily explains the condition. There isn't any question in my judgment but that a good deal of the trouble comes from the breaking down and absorption of the protein of lymphocytes as well as of the malignant cells.

Four or five years ago I undertook to study the blood in malignancy before and after X-ray treatment, and it's astonishing to see how quickly the lymphocytes are broken down; during an X-ray treatment that lasted perhaps three-quarters of an hour, I found that 20 to 30 per cent. of the lymphocytes were destroyed. And that reduction of the lymphocytes continued until the sixth day, when there was a little regeneration. And around the fourteenth day, or rather the twenty-first day, there was a complete restoration, and often in favorable cases a very large increase, which we considered as an indication of improved immunity. The fact that the patient almost passed out was not due to too large a dosage. I understand the Germans are now giving tremendous doses, the equivalent of 700-x followed by transfusion. 20-x is the average dose here, with proper filtration, which is often increased to 40-x. They claim they are getting most wonderful results in deep-seated malignancy from this method. I have not personally seen the literature yet, and I have not sufficient details to give much information. If I have been correctly informed it simply shows that we have not yet reached the limit in dosage.

To get the most satisfactory results, I think we have got to use both the radium and the X-ray as was done in this case, to include the neighboring lymphatics. Radium can cover only comparatively small areas. The X-ray can cover large areas. Radium has some specific influence in some types of cancer that do not seem to be the X-ray, and vice versa. The combination of the two agents, I think, should frequently be used in these cases.

George B. Rice, Boston, Mass.: I have been wondering while listening to Dr. Alexander's paper why radium was not used directly in the larynx? It is a comparatively simple matter to expose the laryngeal tissues after a preliminary tracheotomy, and remove the growth under direct inspection. Then radium can be applied to the surrounding tissues.

I have, I think, operated on five cases of cancer of the larynx, performing thyrotomy in each of these cases. Two of them are living today, and in good health. De Santi, in his work on malignant diseases of the larynx describes in detail the various operations, total and partial laryngectomy, endolaryngeal removal, giving the results obtained in a considerable number of cases. His conclusions are that thyrotomy is the operation for all intrinsic

cancers if seen early. Then when the disease is more extensive, partial laryngectomy or complete laryngectomy as indicated.

W. C. Barker, Philadelphia, Pa.: It seems to me, speaking from practical experience, that both radium and roentgen-ray therapy are disappointing in the treatment of malignant growths. If the growth is operated and then roentgen-ray therapy is given, as suggested by Dr. Rice, this technic will offer an opportunity to help these patients. By operation I mean removal of the growth by an electro-thermic coagulation method and not cutting. It may be necessary to cut into healthy tissue to expose the malignant growth so that it may be coagulated.

If the growth is inaccessible and there is some doubt about its complete coagulation, radium may be introduced into the open wound, or roentgen-ray therapy may be used either through the open wound, or after it has been closed.

To cite one case, a patient of Dr. Joseph Clay, of Philadelphia, with a sarcoma in the orbit. The eyeball protruded but was free from the growth. Dr. Clay enucleated the eyeball and I coagulated the growth, which was too large to be removed en masse. It was removed by thoroughly coagulating the tumor, and then removing small pieces of the charred mass until the whole growth was enucleated. One of the advantages of the electro-thermic coagulation method for the removal of growths is that there is much less destruction of the normal tissue, and that the heat extends into the surrounding tissue destroying cancer cells.

Wm. M. Muncy, Providence, R. I.: I have noted in following the treatment of carcinoma of the ear by radium that the process progresses by the changing of the soft hemorrhagic tissue into a dense white fibrous mass. Here was also first noticed the appearance of white bands which constricted the diseased area which later in its turn became smaller and fibrous. This case, though the growth filled the lumen of the external auditory canal and induration had extended into the auricle and in front and back of the ear, is now practically cured, leaving an enlarged canal lined with a whitish fibrous membrane.

Dr. Alexander (closing): With such superficial study and observation of Dr. Phillips' case I do not think it would be possible for me to give an opinion that would be of any vital service to either the doctor or the patient.

I am very glad that Dr. Stevens stated his opinion favoring the increased dosage necessary to bring about the desired results, because of the fact that Dr. Pfahler was endeavoring to give this man the maximum amount of radium, making every effort to control the trouble, which he did not do. Dr. Pfahler said to me last week that he would not repeat a dose like this again—that he would never again give a patient such a large dose. That, however, does not coincide with what Dr. Stevens has just said. I know but little about radium from the radiologist's standpoint, and am interested in watching the outcome to learn how they will apply and be able to increase the dose effectively.

I am pleased to hear Dr. Muncy's report. Dr. Rice's case, and what he says about cutting, especially in incipiency, is very reasonable. There are cases where surgery is helpful. Certainly Dr. Barker's suggestion in regard to the use of electrolysis without cutting is a matter of importance. I know he uses this method cleverly and with result.

In the first place, if cutting would be desirable why do they take so much time and fool around so long until the case has become far advanced before they come to the point of operating? There must be some reason in their minds, or some feeling that operating has no particular advantage until the condition becomes desperate.

Ocular Lesions Consecutive to Osteomyelitis of the Upper Jaw in Infants.—E. Marx, *Ned. Tijd. v. Geneskunde,* Amsterdam; Abstr. *J. A. M. A.,* Oct. 2, 1920.—The author reports three cases and cites thirty-three cases in which ocular lesions followed osteomyelitis of the upper jaw in children. The lesions were abscesses, fistulae, or merely conjunctivitis. The patients' ages ranged from three days to nine months. Staphylococci were thought to have been secondary invaders in two of the cases. Twenty-five per cent. of the cases terminated fatally. In eight of the thirty-six cases the disturbances in the eye were the first thing that attracted attention to the osteomyelitis. Exophthalmos was pronounced in nearly 25 per cent.; it seems to be a constant occurrence in inflammation of the ethmoid sinus, states the author. The author also cites Stephenson's report of his compilation of ten cases of ethmoid sinusitis with exophthalmos, one of which occurred in a babe of two weeks. H. L. G., Jr.

Presentation of Patient.—Dr. George W. Mackenzie: This young man first reported to me about two weeks ago, making an engagement for an operation which was done four or five days ago. The history was: In October of last year he had a submucous resection performed with apparently good results. About four or six weeks ago he had a collision with his bicycle and struck against a curbstone. The result was that his nose became disfigured and distinctly saddle-shaped. I found that the nasal bones, where they articulate with nasal process of maxilla, had slipped about 2 or 3 millimeters, making the nose also quite flat and thrown to one side. Having had similar cases, I have done what most men would argue against; that is, a very extensive submucous resection. The cartilage that most people believe is a support to bridge of nose is not a support. When one gets an injury to the nose and the nose is depressed, the cartilage serves to weigh it down and when we get rid of all of it the nose will come down. I removed the cartilage freely and immediately the nose came straight. Following this I introduced a very small rubber-covered chisel, raising the bridge of the nose and thus replacing the nasal bones. One side is a perfectly smooth surface. He had a little depression before injury and the nose was turned up. The septum operation alone straightened the nose but in taking out all of the cartilage the nose is practically the same shape as it was before. It is a simple operation done with cocaine.—*Phila. Laryng. Soc., Penna. Med. J.*, Sept. 1920.

W. G. S., Jr.

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Editorial

REPAIR OF PERMANENT PERFORATION OF MEMBRANA TYMPANI.

UNDER the above heading appears in this issue an able paper by Dr. W. J. Blackburn, of Dayton, Ohio. The paper is well worth reading by every otologist. After reading this paper one is impressed with the candor of the writer and the thoroughness with which he goes at things; in other words, his very exactness (attention to technique) causes one to put dependence in him and his observations. The results he reports having obtained in the treatment of a permanent perforation of the drumhead are no less favorable than those obtained by the several other otologists who have discussed the paper, all of whom used more or less the same method, which appears to have been devised by Dr. Haseltine, of Chicago.

It is to be hoped that many others who read Dr. Blackburn's paper and the discussions immediately following will try out the method suggested. If the otologist is able to heal permanent perforation in dry ears he will succeed not only in improving hearing, but will tend to put the patient in a more secure position against recurrence of middle ear suppuration, for the reason, as pointed out by Yankauer, and others before him, that recurrences of middle ear suppuration are especially favored by the two factors, patulous Eustachian tube and perforated drumhead. Yankauer prefers to attempt a permanent closure of the tube by his well-known method, while Blackburn, Haseltine, Myers, Denman, and Sowers attempt to close the opening in the drumhead. The former method is more difficult and less successful than the latter, besides the hearing promises to be better after successful closure of the perforation in the drumhead than after the closure of the Eustachian tube by any method.

G. W. M.

TO THE MEMBERS OF THE HOMOEOPATHIC O., O. & L. SOCIETY.

THE next meeting of the Society will be held in Washington, D. C. Every one who has not seen our National Capital has always wanted to visit it since he was a little boy or, possibly, since she was a little girl. Every one who has seen it will be glad to renew its acquaintance, so, in either case, we can count on a very large attendance at our 1921 annual meeting in June.

"EVERY MEMBER A CONTRIBUTOR."

"An organization is alive or dead in a direct ratio to the activity of each member." Let us make this motto the predominating feature of our 1921 meeting. To this end we are asking every member to take some part in this year's program. Many of you are doing research work.

THEN COME AND TELL US ABOUT IT.

Many have some particular subject to which they would like to give intensive study.

THEN DO IT NOW AND IN JUNE TELL US ABOUT IT IN A PAPER.

There may be a few who, for one reason or another, do not care to prepare a paper. Some of these may have interesting cases to report.

Those of you who can possibly attend, kindly notify us so that we can put you on the program to take part in the discussions. This is very important! Kindly notify both the Bureau Chairman and the Secretary.

FINALLY, AND THIS APPLIES TO EVERY ONE.

There has been a very healthy increase in the membership of the society, especially the last two years. The record in 1920

beat the record of 1919 and we want the record of 1921 to beat them both. We want every member to be a membership committee of one, so that every eligible specialist in your city and state shall become an active member of the society.

THIS MEANS YOU!
"EVERY MEMBER A CONTRIBUTOR."

Very sincerely,
Neil Bentley, *Secretary.*

Bureau Chairmen: Dr. William McLean, Ophthalmology, 375 West End Ave., N. Y.; Dr. L. E. Hetrick, Otology, 30 West 48th St., N. Y.; Dr. Alva Sowers, Laryngology, 30 N. Michigan Blvd., Chicago, Ill.; Dr. Burton Haseltime, Medical Economics, 122 S. Michigan Blvd., Chicago, Ill.

"I TRIED HARD TO SAVE HER FROM AN OPERATION."

THE above is literally what a practitioner said to a consultant called in to see a sixteen-year-old girl severely ill with a frontal sinus abscess. The mother and father were present at the time. Judging from the self-satisfied manner of the doctor it was evident that he was not looking for ordinary approval but actual congratulation. The consultant could not be rude, neither could he tell a downright lie. So he did the best he could under the circumstances and that was to say nothing. What the family physician had accomplished in the case was worse than nothing, for he had fed the patient morphine for two weeks after the case first demanded operation. The outcome was that the patient had to be rushed to a hospital for an emergency operation of considerable magnitude when a relatively minor one would have sufficed earlier had the attending physician been less keen on saving the patient from an operation. This is just how too many family physicians deceive themselves and their patients. Is it any wonder that there are so many Christian Scientists in the world?

REPAIR OF PERMANENT PERFORATION OF THE MEMBRANA TYMPANI.*

W. J. Blackburn, M. D.

Dayton, Ohio.

A FEW years ago while doing some post-graduate work in Chicago it was my good fortune to be associated for awhile with Dr. Burton Haseltine. Among other things, he told me of several cases of repair of permanent perforations of the tympanic membrane, and his method of procedure. Since that time I have been looking for a patient whose co-operation I could get, and I want to say in the beginning that to do this trick successfully you must have the co-operation of the patient, otherwise your efforts will prove futile. You must first have a patient that really wants to be cured. Second, you must explain fully to the patient just what is to be done, and impress upon him the fact that patience and persistence are essential to the success of the treatment, and unless he is willing thus to co-operate it will be useless to begin the treatment.

If there is a discharge from the ear this must first be eliminated before any treatment looking to the repair of the perforation itself is attempted.

Last summer a patient whose co-operation I believed I could have presented herself for treatment, and I desire to report the results of my efforts.

On July 25, 1919, Miss E. C., age 34, occupation, teacher, consulted me in regard to her ears. She gave a history of a discharge from both ears for a period of several years. At times the discharge would apparently stop for a short period and upon some slight provocation would return. The right ear had been the worse of the two.

She gave a history of nasal catarrh of long standing and attacks of tonsillitis at irregular intervals.

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* Read at the Annual Meeting of the O., O. & L. Society, Cleveland, O., June, 1920.

Examination revealed the following:

Right Ear—M. T. almost gone; muco-purulent discharge; hearing by watch 10/40; Rinné C2 Fork; bone conduction 30; air conduction 35.

Left Ear—M. T. permanent perforation 2 1/2 x 3 mm., almost central; mucopurulent discharge from middle ear; hearing, watch 20/40; Rinné C2 Fork; bone conduction 30; air conduction 34.

Weber—Negative.

Nose—Septum vertical ridge on right side about 1/3 of the way back which partially obstructs nasal opening. Considerable amount muco-purulent nasal discharge and some crusts clinging to turbinates.

Tonsils small, submerged. Infected.

This patient was very anxious to have her ears cured of the discharge, if possible, and hearing improved.

I advised submucous resection of nasal septum first, to establish free nasal breathing; treatment of the catarrh of the nose, local treatment of the aural discharge, and removal of the tonsils. The patient objected to the tonsillectomy at that time, but a subsequent attack of tonsillitis changed her mind. I told the patient if we could get the discharge from left middle ear stopped, we would attempt to repair the permanent perforation in the membrana tympani.

Submucous resection of nasal septum was done July 31st. The patient made an uneventful recovery from this operation. Following this the Dowling tampon was used in both nostrils in the middle meatus three times a week. The tampons were allowed to remain from 20 to 30 minutes at each treatment. The local treatment of the ears consisted in wiping the discharge from each ear as clean as possible with cotton, followed by five drops of a 1-500 solution of Potassium-mercuric-iodid (HgI_2 $2KI$).

I also had the patient use this latter solution at home each night on retiring.

The suggestion for the use of this remedy was given me by Dr. Douglas Macfarlan, of Philadelphia, last year at the meeting in Asbury Park, N. J.

Internally I gave the patient Kali sulph 3x.-3 gr. four times a day.

This procedure was continued until December 17th. The discharge from the left ear had discontinued three weeks prior to this date, however, and the patient was much improved, insofar as the nasal discharge was concerned. In fact, she remarked that she could not remember the time when her nose felt so good. I was quite sure the discharge from the left ear was practically cured.

The patient was to begin her holiday vacation on the 17th of December. On account of her living twenty miles distant it was not convenient up to this time for her to visit the office daily; and I desired to see her daily, at least for several days after beginning the treatment to close the tympanic opening. So on December 17th, believing that everything was ready to make the attempt, I began the treatment of the perforation.

The rim of the opening was lightly touched on its entire circumference with trichloracetic acid. A white margin appeared. Following this a very thin pad of cotton, a little larger than the opening, moistened with euthymol, was placed over the aperture. The patient was given a small vial of euthymol and told to instill a few drops into the external auditory canal three times daily—enough to keep the pad of cotton moist.

I saw the patient daily for several days but did nothing to the pad of cotton, except to inspect it to see that it was in the proper position, until the third day, when I very gently removed it, after moistening it with euthymol. I found that the opening was much smaller. I applied a fresh pad of cotton as before and removed it at the end of the sixth day. The opening was very small. I applied a cotton pad again and removed it in three days. The opening was not much larger than a pin-point. I again put on a new pad. The next time the patient came to the office she told me that she had experienced a very peculiar sensation in the ear the day previous. She said that noises and sounds of all kinds had become very loud and that they annoyed her very much; in fact, she thought for a time she could hardly stand it. After a few hours these noises and sounds began to diminish and she found that she could hear much better. At this inspection I could scarcely see the opening in the tympanic membrane, it was so small.

I applied a new pad of cotton as before. The next time—three days later—the patient came to the office. She had unfortunately contracted a severe cold and she said she knew something had happened to that ear as it felt different, yet she could

hardly describe the change. Inspection showed a slight enlargement of the opening and a little discharge. We were both much discouraged. But I tried not to show my discouragement, and assured the patient that I felt sure our efforts would eventually be successful. I could plainly see the newly-formed membrane with the tiny blood vessels running through it. But we still had a small opening. I left off the pad of cotton and we returned for a time to our former treatment of Potassium-mercuric-iodid solution, in an effort to stop the return of the discharge. In ten days the ear was perfectly dry again and I decided to leave off the cotton pads for a time and see what would happen. I noticed that in a few weeks the opening had almost closed, but in the center was quite a depression. The patient could hear much better and the ear felt comfortable.

On February 3rd, I decided that I did not like the depression in the center and I again used the trichloracetic acid, enlarging the opening to about 1 1/2 mm. in diameter, placing the pad of cotton on as before. I removed it the third day and everything was progressing nicely. I applied a new pad and kept up the procedure for about two weeks.

The opening was now very tiny again.

I neglected to say that after the treatment on February 3d, I placed a cone of cotton in the external auditory canal, thinking this would reduce the external air-pressure. I kept cotton in the canal for about a month. The depression was not noticeable. Then the patient contracted tonsillitis. This was one complication that I blame myself for, in not *insisting* in the beginning that the patient have the tonsils removed.

There was again a slight discharge from the ear for a few days. The cotton pad was left off the membrane and no treatment was used for the discharge, just to see if it would clear up. It did in a very few days. The opening was now about the size of an ordinary pin-head. I decided to wait a while to see if the discharge would return.

I waited until May 12th, no discharge. I decided to cauterize again the remaining small aperture, using the same procedure as heretofore mentioned. On May 21st I could see no perforation, but after removing the pad the M. T. looked so moist that I was afraid there was a slight opening. I did not want to tamper with the membrane much because I knew the newly-formed membrane was very delicate and I might do it harm. So I left off the cotton

pad and had the patient use euthymol in the ear three times a day. On May 25th, the patient returned and said the ear felt somewhat different—as though the opening was closed. She complained that the euthymol applications burned severely for quite a while after each instillation, and that she would seem partially deaf in that ear. This would pass away before the time for the next instillation. Examination of the M. T. showed that the perforation was completely closed. I left off the pad of cotton, but placed a cone of cotton in the canal, and gave the patient a 50 per cent. solution of euthymol to use in the ear twice daily. On May 29th the patient returned, and examination revealed a complete closure of the opening. The newly-formed membrane was plainly discernible, including the tiny blood vessels.

This patient was one that co-operated to the fullest extent, which, as I stated in the beginning, is absolutely essential.

She is very grateful for the results accomplished and I am extremely proud that my efforts were crowned with success.

The same results can be accomplished by any aurist who is persistent, provided he has a patient who will co-operate, and if the technique is carefully followed.

DISCUSSION.

Alva Sowers, Chicago: I have been particularly interested in this paper because I think I wrote the first article in English describing this operation. There is no question but what it is of great value, as Dr. Haseltine himself will tell you when he comes in. He was my first patient and I borrowed my ideas from him. He told me what to do and I did it.

His perforation remained open a year-and-a-half, so it was almost a permanent perforation. It was perhaps 2 mm. in diameter; it remained open a year-and-a-half, and now the membrane is normal—you can scarcely see the scar. The annoyance that the doctor spoke of just as the drum was closing I have found in nearly every case. It is quite annoying just as the drum finally closes; they hear sounds so differently; louder, and they seem entirely different from normal sounds. They however quickly get over that.

In the final stage, when the doctor noticed a dent in the membrane, I think the treatment is very important. You must continue to treat and keep the tampon there for days or weeks after you

think the drum is finally healed. I noticed in several cases it was entirely broken down, so I feel that one can leave the tampon in there long after the membrane seems entirely healed.

Dr. Blackburn: I would like to ask Dr. Sowers if he ever used a cone of cotton in the canal to minimize the external air-pressure.

Dr. Sowers: There is no reason why one should not do that. I have never done it—just a simple little pad, a little larger than the opening is all that I use—all that we have ever needed. I don't see why a cone of cotton would not be a good thing.

Dr. Lewy: When you keep the cotton support in there after the perforation is healed do you continue to keep it moist?

Dr. Sowers: Yes, continue to keep it moist. Give a little bottle of the drug to the patient to use at home. It's very important to keep it moist, and there is nothing like euthymol to stimulate the membrane to reform at the perforation.

Burton Haseltine, Chicago: Well, Mr. President, I have used this particular method for a great many years, but always felt rather apologetic in mentioning a matter that seemed of such small importance until Dr. Blackburn and Dr. Myers seized upon it and gave it so much attention.

I did have an opportunity in the military service to try this out more than I had ever tried it in the past. We had a large number of men in the army who had ruptured ear drums. We saw dozens of cases—had as high as ten cases under observation at the clinic at Fort Sheridan—men who had permanent perforations of the ear-drum, most of them having occurred while in the service, but not all.

Now of course some of those cases were suppurating; the usual history of the case was that the ear was ruptured, would discharge for a period of time and then, either with or without treatment, the discharge would cease but the perforation would remain. We had some cases in which there was still suppuration going on. Of course, as Dr. Blackburn has emphasized, there is no use in attempting to close a perforation until infection is stopped. In every case in the army that we attempted to grow an ear-drum we succeeded. There were three or four cases unfinished when I left the service, but I heard from them subsequently and every case was successful.

I suppose we had twenty-five or thirty cases in the course of

more than a year. It is possible that some of these cases might have closed without treatment, but some of them had been open as long as eighteen months without discharge and without treatment, and with no evidence of any attempt at growth whatever. Some men had heard about other methods, I spent an entire month on one case experimenting with other things before starting treatment with this method and got no results at all. So we had pretty thorough demonstration of the fact that while we could heal the perforation with this method other methods brought no results at all.

In promoting the growth of this membrane I found that this Parke-Davis mixture called euthymol prompted growth better than any other solution.

Now as to the benefits from this procedure, we had a good many men coming through with permanent disability, having been passed by specialists in other units for discharge from service with permanent disability. We delayed the release of these men from the army in several of those cases; held them up in order to see whether we could restore the drum and thereby remove this disability, which we did in every case. They had all been treated and passed by other specialists in other hospital units. I might say in order to pass a man in the army it is necessary to officially state that nothing further can be done; simply an army routine—in order to pass them you are obliged to state that no further improvement can be obtained; and we actually held up the papers of these men in several cases that had been so passed, and retained them until we grew in this drum, and then passed them without disability. The improvement in hearing is very definite and very noticeable, as you can imagine.

Fred C. Sage, Waterloo, Ia.: I would like to ask Dr. Haseltine what was the usual time required to heal?

Dr. Haseltine: The worst case I ever saw in the service required I think about sixty days. In private practice I have had a few cases requiring even longer time.

I. O. Dennan, Toledo, O.: Acting upon Dr. Haseltine's suggestion made to me four or five years ago, I have since that time succeeded in closing tympanic perforations in three cases; none of these exceeded one-third of the area of the tympanic membrane in size. One of the cases had a recurrence just as I had it almost closed, caused by forcibly blowing the nose; then of course the

entire job was to do over again. However, I succeeded in closing it again the second time about a year-and-a-half ago. There has been a complete restoration of function and the scar-tissue has absorbed almost entirely, and it really looks and acts as if it had never had any damage done to it.

I am convinced that the small tamponade against the drum is a necessary thing. This is not at all uncomfortable to the patient and it really acts as a false drum in a way, to the end that the hearing is much improved in cases when the tampon is applied. I have not used euthymol, not that I have any objection to it, but simply had started in using a mineral oil, hydrocarbon oil, which I happened to have in my cabinet, and have got my results with that. It may be, however, that euthymol would facilitate the new growth, and I shall from now on give it a trial.

It is interesting to note that the general impression is that perforations when once present are there forever. Patients often come to me having had opinions from our recognized specialists in other cities, saying, "Of course there is nothing to do for this hole in my drum." I feel that there is really much room for education along this line among our own ranks, and believe that we should spread the news as much as we can, because the closure of such perforations not only increases the acoustic function, but, of course, acts as a preventive to infectious matter entering the middle ear and setting up an inflammatory condition.

Dean W. Myers, Ann Arbor, Mich.: Dr. Lewy has asked me to report upon a case that I demonstrated a couple of years ago at Ann Arbor. I have been very much interested in the technique mentioned here. This case to which Dr. Lewy refers was a very interesting one and one that I considered very remarkable in its result. It is the case that many of you saw in Ann Arbor two or three years ago, a young woman about thirty years of age, who after suppuration of the ear in childhood was left with the posterior half of the drum membrane gone in her left ear. In the right ear the entire drum-membrane, ossicles and all, was gone, and total deafness had resulted. The hearing in the left ear was very greatly reduced, necessitating very loud talking close to the ear in order to make her understand.

By the method of Dr. Haseltine, namely, the tampon saturated with euthymol, the ear-drum was ultimately completely replaced. The exact technique of this procedure was to make a small cotton

pad, just sufficiently large to a little more than cover the perforation and as thin as possible. This pad was placed in position and saturated with the euthymol solution. The patient was then given a bottle of the solution and a few drops were put in once or twice a day to keep the cotton moist. This cotton was changed daily for several months, great care being taken to thoroughly soak it up before attempting to remove it, so that the delicate little granulations upon the margin of the newly-forming drum-membrane should not be injured. When the new membrane had completely closed over it was found that her hearing had improved to virtually normal. She was able to repeat whispered statements at twenty feet, and could hear ordinary conversation without any effort upon the part of the speaker or herself. As many of you will recall, tests were made by members of this society at Ann Arbor, and I recall quite distinctly that Dr. Lewy was very skeptical until he had satisfied himself as to her hearing ability.

The reason I am now speaking of this case is that following an attack of influenza last year, she ruptured this new membrane very sadly. The rent passed through the entire diameter of the newly-grown membrane from above downward. It gaped open very widely and the hearing was at once greatly reduced. Up to the present time I have found it very difficult to start new granulations upon the border of this tear, so the reunion seems more or less doubtful. I am at this time wondering whether or not it will be necessary to remove all of this new membrane and start over again from the beginning. The membrane seems to be so lifeless, very white and flaccid and, withal, the re-formation seems to be rather discouraging.

I have been very much interested in the subject of closing of perforations. Of course it is true that many perforations will close without treatment. This is particularly true of the small perforations following acute suppuration of the middle ear. There was, however, no question of the permanency of the perforation in this case. The result obtained was a great satisfaction to both the patient and myself. You may imagine her joy at being able to recognize ordinary conversation anywhere upon the street or at distances ranging from twenty to forty feet. I might say, further, that since the rupture of the membrane has taken place she is able to hear almost normally with the little cotton pad in place covering

the perforation. When this is removed she is quite deaf, but with the pad in place hearing is at once restored.

I shall be glad to report to this society later on as to our results in the case.

Dr. Blackburn (Closing) Answering one of the discussors, the reason I used the trichloracetic acid the second time was because I did not like the looks of the membrane. There was a dent in it, a dimple, and I wiped out a whole lot of the tissue grown in there—about half it. It was almost closed when I did that. I might say that I saw this patient last Saturday, June 19th, and that the membrane is still intact, and that since I had seen her, two weeks previous, there had been a new blood vessel formed across the middle of the membrane. She is very grateful for the results; her hearing shows marked improvement.

I might say also that when I first started the treatment of this patient, and after about two weeks saw this perforation closing so rapidly, I just said to myself, I don't think there is very much to this thing—it's a simple matter; but I found as I went along a lot of complications came up which I spoke about in my paper. So it is a matter that requires very close attention to details.

One will find many cases of perforation of the membrana tympani. If you will give attention to the details of this treatment you will be able to repair permanently many of these cases, and thus you may become a source of comfort to many a grateful patient.

The McKesson Anesthetic Appliance, illustrated in the advertisement appearing on page 76, is the one used by Dr. Ira O. Denman with considerable success.

DRUGS AS A CAUSATIVE FACTOR IN NEUROLABYRINTHITIS.*

William G. Shemeley, Jr., M.D.,

Philadelphia, Pa.

At the present time it has become a more or less common practice to inject quinin, arsenic, mercury and preparations of the salicylates directly into the veins when one of these remedies is needed in the treatment of any disease. The effect of these drugs thus injected into the circulation is more immediate and deeper acting than when given by mouth; but there is also a greater possibility of producing deleterious effects in susceptible organs that may prove very difficult to control.

The eighth or auditory nerve is affected especially by such drugs as quinin and the salicylates—lead, arsenic, mercury, alcohol, especially wood alcohol, which, although it produces its most intense action upon the second or optic nerve, also has a detrimental effect upon the eighth nerve—tobacco and inhalations of carbon monoxid gas.

The action of some of these substances upon the eighth nerve has received attention from Politzer,[1] Hammerschlag,[2] Ruttin,[3] Mackenzie[4] and others. The cases mentioned by Politzer, Hammerschlag and Ruttin were for the greater part those resulting from focal infection. However, Politzer reports some cases which he considered to be due to rheumatism, but since the salicylates were used in the treatment of the rheumatic conditions, it is difficult to determine just how much of the condition is due to rheumatism and how much is the result of the drug used in the treatment of the disease. The best work, and by far the most complete, has been done by Mackenzie. He was the first to point out the great number of drugs that are causative factors in the production of neurolabyrinthitis.

When the condition is recognized promptly and the drug causing it is discontinued, the nerve tends more or less to resume its

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* Read before the Bureau of O., O. & L. of the Southern Homœopathic Medical Association, November 18, 1920.

normal state; but where the condition is not recognized and the particular substance producing it is continued, as a rule permanent damage is the result. The fact that several of these remedies are used in the treatment of syphilis and that lues may also produce similar affections in the nerve, serves to further mask the picture and make its recognition difficult.

Deafness of sudden onset, more or less complete, accompanied by severe tinnitus and vertigo, occurring during the use of quinin, arsenic, mercury, aspirin, lead, or the salicylates, should serve to put us on our guard, and above all should cause the use of the offending drug to be discontinued. If a patient is examined at this time what data should one find that would point to a neuritis of the eighth nerve? The symptoms and signs of an acute eighth nerve neuritis are more or less abrupt in onset,, accompanied, as a rule, with fever and malaise. The regional symptoms are: tinnitus or subjective noises, deafness, vertigo, equilibrium disturbances, spontaneous rotary nystagmus to the sound side and diminished or negative caloric reactibility of the affected nerve. These symptoms occur in patients with a negative history of middle ear suppuration; but there is a history of an infectious disease or the use of some drug or substance that produces toxic effects. In these patients the otoscopic findings will be negative, except in cases of herpes zoster involving the membrana tympani. The tinnitus is usually positive and continues over varying lengths of time. The deafness varies from partial to absolute, and corresponds to that found in diseases of the perceiving apparatus. The vertigo is severe and continues for a longer time than that found in suppurative labyrinthitis. The equilibrium disturbances, the spontaneous rotary nystagmus to the sound side, the negative caloric reactibility of the nonacoustic labyrinth and the shortened duration of the after-nystagmus are the same as those found in labyrinth suppuration.

If the patient has no history of middle ear suppuration, suppurative labyrinthitis may be ruled out. Suppose though a case has a chronic middle-ear suppuration and has been receiving some of the drugs named above, how then can the existence of neurolabyrinthitis be proved? It can be proved by the use of the galvanic test, which has been developed to its highest efficiency by G. W. Mackenzie.[5] In the initiative stage of neurolabyrinthitis the findings with the galvanic as well as with the turning test will show variations from day to day. This variation is in itself strongly sug-

gestive that there is an irritative lesion of the nerve present. If the case is one of neurolabyrinthitis, supposing the right ear to be affected, the findings in the acute stage, or stage of irritation, would probably be:

Right Side:

Kathode 1 ma. Rotary nystagmus to the right side.
Anode 4 ma. rotary nystagmus to the left side.

Left Side:

Kathode 4 ma. rotary nystagmus to the left side.
Anode 1 ma. rotary nystagmus to the right side.

These are much different from the findings in cases of destructive lesion of the right labyrinth. The most typical findings would be:

Right Side:

Kathode 8 ma. or more rotary nystagmus to the right side.
Anode 4 ma. rotary nystagmus to the left side.

Left Side:

Kathode 4 ma. rotary nystagmus to the left side.
Anode 8 ma. rotary nystagmus to the right side.

Should the process prove progressive because of the continuance of the irritant, if atrophy of the nerve has resulted, no reaction will be produced to either kathode or anode. This will serve to distinguish neurolabyrinthitis with destruction from a suppurative labyrinthitis where the end-organs in the ampullae have been entirely destroyed by the suppuration;[6] but where the nerve remains more or less intact for six or eight weeks. In neurolabyrinthitis with atrophy of the nerve, the galvanic test will show:

Right Side:

Kathode 18 ma. No reaction.
Anode 18 ma. No reaction.

Left Side:

Kathode 3 ma. Rotary nystagmus to the left side.
Anode 18 ma. No reaction.

Comparing this with the average galvanic findings in an acute labyrinthitis where the typical findings are consistently—

Right Side:

Kathode 7 ma. Rotary nystagmus to the right side.
Anode 3 ma. Rotary nystagmus to the left side.

Left Side:

Kathode 3 ma. Rotary nystagmus to the left side.
Anode 7 ma. Rotary nystagmus to the right side.

As additional points of differentiation in neurolabyrinthitis there is frequently paresis of branches of other cranial nerves, particularly the II, V, VII and XII; the condition is prone to occur bilaterally, and unless atrophy has taken place there is ultimate recovery of both acoustic and static functions. Where the process is that of a suppurative labyrinthitis, paresis of other cranial nerves is the exception, and then involving only the VII; the involvement is always unilateral and there is ultimately permanent loss of both acoustic and static functions.

Three cases have been selected:

Case I.—July 27, 1919. Dr. R., age 49 years. Record No. 714.

History.—Patient had a severe cold two months ago which affected both ears. Right ear cleared up, but left one is still closed. Has noises on left side. Has no pain. Noises resemble escaping steam, especially when in quiet surroundings. No discharge.

Nose Examination.—Deviation of septum to the right; middle turbinate visible on the right before shrinking. Space between middle turbinate and septum and middle turbinate and lateral wall on right. Spine along suture line on left. Middle turbinate on left visible; space between middle turbinate and septum and middle turbinate and lateral wall on left side. No evidence of sinus disease.

Throat.—Secondary catarrhal pharyngitis. Submerged small tonsils; no deposits on pressure.

Fork Tests:

Weber
sh. 5" Schwabach sh. 14", 10"
positive 38" Rinné positive 25", positive 30"

sh. 5"? Air sh. 17"
sl. sh. C. sl. sh.
very sl. sh.? c4 very sl. sh.

Otoscopic Findings:

A. S.—Slight amount of wax but does not obstruct view. Membrane intact, slightly dull, opaque in posterior half. Chalk deposit in lower posterior quadrant. No retraction. Long process of anvil not visible because of the opacity. Mobility poor by Politzer inflation.

A. D.—Membrane intact, fairly brilliant, rather opaque in posterior half. Long processes of anvil not visible because of the capacity. Chalk deposit in posterior half. No retraction. Very little mobility by Politzer inflation.

Patient had prescribed for himself tablets, each of which contained:

℞ Cinchonae salicylate .....grs. V
Acetanalid .....grs. II
Gelsemin .....gr. 1/20

Patient received inflation and nux vomica was prescribed, and he was told to discontinue the use of the tablet he had been taking. November, 1919, he returned for observation. At this time he claimed that hearing had improved.

Fork Tests:

Weber not lateralized
sh. 4" Schwabach sh. 4"
+40" Rinné positive 40"
sh. 4" Air sh. 4"
sl. short C1 sl. short
normal c4 normal.

Case II.—September 27, 1920. Dr. P., aged 52 years. Record No. 4290.

History.—In 1915 patient had syphilis. Lesion developed in left thumb following a needle prick. Condition was not diagnosed until the appearance of rash. Wassermann test for the past two years has been and is still negative. Patient is under active treatment for short period each year. One year ago began with noises in both ears. With changes of weather, fatigue, or noise of cars, tinnitus becomes worse. About one month ago, 5 P. M., began

with pain in the ears; worse in left ear, and always about 5 or 6 P. M. At times he has a vague pain in the head, worse at 5 or 6 P. M. No history of any previous ear trouble. No vertigo. Pain in head worse from anything that increases the blood pressure:

Hearing Tests:

6 m. Conv. voice 8 m.
2 m. Whisp. voice 0.5 m.
1.5 m. Akumeter 0.15 m.
Indiff. Weber.
sh. 10", sh. 8" Schwabach sh. 9", sh. 5", sh. 2"
positive 22" Rinné positive 21"
sh. 7", sh 6" Air sh. 6", normal
normal C1 normal to 4" sh.
∅ to very short c4 ∅ to very short.

At this time the patient states that following the intravenous injection of mercury or neosalvarsan, he has a feeling of heat in the ears, and he does not hear as acutely as normal.

Nose Examination.—Moderate deflection of septum to right high up. Spur along suture line on right and a small spur on left. Both middle turbinates visible before shrinking. Both are in contact with the lateral wall. The left middle turbinate has space between it and the septum, but the right is in contact with the septum.

Throat.—Tonsils small, submerged, no deposits on pressure.

Otoscopic Examination.—A. D.—Membrane is intact, brilliant, transparent; long process of the anvil visible. Normal mobility with Siegel. Numerous blood vessels run over canal surface to the drum. With Politzer inflation membrane came out over moderate-sized area and returned promptly.

A. D.—Membrane is intact, dull, opaque; long process of the anvil indistinctly visible. Hammer handle foreshortened. Moderate degree of retraction. Short process of hammer very prominent. Limited mobility with Siegel. With Politzer inflation membrane came out over moderate-sized area and returned promptly.

Turning Tests:

Head erect
10 turns left ← 27", 10 turns right →
Head forward 45 degrees
10 turns left ↶ 25", 10 turns right ↷

Time was lost because patient became very nauseated and vomited.

Galvanic Test:

Right Side—	Left Side—
Kathode 3 ma. ↶	Kathode 4 ma. ↷
Anode 7 ma. ↷	Anode 6 ma. ↶

No spontaneous nystagmus when looking straight ahead or to the extreme right or left.

Just before injection with neosalvarsan:

Weber

15" sh. Schwabach sh. 8"
positive 33" Rinné positive 45"
sh 2" Air normal
Normal C1 normal
$^{\varnothing}$C4, $^{\varnothing}$to very short

One and a half hours after intravenous injection of 0.75 gms. neosalvarsan:

Weber

sh 7" normal? Schwabach sh 12"
positive 42" Rinné positive 48"
sh. 9" Air sh 8"
12. 12" C1 sh. 12"
sh 7", normal c4 sh. 12", sh. 7"

October 4, 1920—72 hours after intravenous injection of 0.75 gms. neosalvarsan:

Weber

sh. 9" Schwabach sh. 9"
positive 36" Rinné positive 35"
sh. 10" Air sh. 7"
sh. 12" C1 sh. 15"
sh. 8" c4 sh. 10"?

October 8, 1920—Before injection:

Weber

normal, normal Schwabach sh. 17"
positive 20" Rinné positive 15"
normal Air normal
normal C1 normal
sh 12" C4$^{\varnothing}$ with loud blow and right ear stopped up

Two and one-half hours after intravenous injection of 0.6 gms. of neosalvarsan:

Weber
sh 5" Schwabach sh 12"
positive 22" Rinné positive 13"
normal Air normal
normal C1 normal
sh 7" c4 ∅ with loud stroke

Case III.—January 16, 1920: Miss M. L., age 33 years. Record No. 3905.

History.—Patient claims to have vertigo. Occasionally the light through the window seems to wave before the eye. When patient looks at the daylight there appears beside it an additional diffuse light that seems to wave (causing one to think of lesion at the macula). Never observed objects moving. Patient feels as though she herself was being moved. This subjective sense before eyes is usually coincidental with feeling of imbalance. Also sense of falling when she is not bothered with waves of light before eyes. Patient has also observed the wavering light before the eyes even in the dark. She observes during the attack that if she closes the eyes the wavering light continues. These attacks last ten or fifteen minutes, and are relieved by lying down. No headaches follow; patient is not subject to headaches. During the attack her vision is poor; in other words, the patient describes in poor fashion "scotoma."

Nose Examination.—Mucous membrane pale. Right middle turbinate not visible before shrinking. Left middle turbinate visible before shrinking. Septum shows S-shaped deviation more to the left. Ridge at suture line both sides, more to left. Small spur posteriorly and low on left. After shrinking both middle turbinates visible; space between them and septum, also lateral walls. Small amount adenoid tissue visible.

Throat.—Mucous membrane rather pale. Tonsils small and apparently healthy.

Ear.—A. S. membrane intact, brilliant, transparent, not retracted. Normal mobility to Siegle. Long process of anvil visible. Posterior inferior quadrant. Evidence of lines of old secretory catarrh.

A. D. membrane intact, brilliant, slightly opaque. Not retracted. Normal Siegle. Long process of the anvil not visible because of opacity.

Marked hippus on looking to extreme right, rotary nystagmus. On looking to the left rotary nystagmus, but to neither side more than the other. When looking straight ahead, slightly down, slight tremor of eyeball of less than 1 mm., suggestive of nystagmus to right (?).

Turning Tests.

Head Erect.

10 turns Rt.→nystagmus 24½" 10 turns Lt.←nystagmus 13"

Head Forward.

10 turns Rt. ↷ nystagmus 13" 10 turns Lt. ↶ nystagmus 25"

January 20, 1920.

Head Erect.

10 turns Rt.→nystagmus 23½" 10 turns Lt.←nystagmus 24½"

Head Forward.

10 turns Rt. ↷ nustagmus 16" 10 turns Lt. ↶ nystagmus 21"

Galvanic Test.

Right Side—
Kathode 1 ma. ↶
Anode 2 ma. ↷

Left Side—
Kathode 1 ma. ↷
Anode 2 ma. ↶

February 3, 1920.—Patient reports since last visit at this office has not had any dizziness at all. Thinks she has a slight cold now and says her right eye twitches considerably.

Galvanic Test.

Right Side—
Kathode 1 ma. ↶
Anode 1 ma. ↷

Left Side—
Kathode 1 ma. ↷
Anode 1 ma. ↶

Turning Test.

Head Erect.

10 turns Rt.→nystagmus 19" 10 turns Lt. ←nystagmus 15"

Head Forward.

10 turns Rt. ↻ nystagmus 15" 10 turns Lt. ↺ nystagmus 22½"

May 3, 1920.—Patient claims her dizziness has been better since her last visit. Wears her glasses constantly.

Rt. Fork Tests. Lt.

Weber Indifferent
Norm. to 3" short Schwabach short 7"
+31, +24 Rinné +26
sh. 6", sh. 11" Air sh. 20"
sh. 16" C1 sh. 31"
norm. C4 norm.

Turning Tests.

10 turns → nystag. 22" 10 turns ← nystag. 14"
10 turns ↻ nystag. 26" 10 turns ↺ nystag. 26"

Galvanic Test.

Right Side— Left Side—
Kathode 1 ma. ↺ Kathode 1 ma. ↻
Anode 2 ma. ↻ Anode 2 ma. ↺

May 17, 1920.—Patient reports having felt very well. No dizziness, although after coming to office still had feeling of motion as though she were riding in train.

Turning Tests.

Head Erect.

15 turns → nystag. 23" 15 turns ← nystag. 18"

June 9, 1920.—Patient reports dizziness has all gone. Eyes burn occasionally; this especially noticeable when riding in an automobile or car. Has been very nervous, more so than when here last. Has gained three pounds in weight. Has hardly any headache. Eyes have not watered as much in the morning as previously.

Fork Tests.

Rt.		Lt.
	Weber Indifferent	
sh. 20", sh. 18"	Schwabach	sh. 15", sh. 12"
+36", +40"	Rinné	+21", +21"
sh. 8", sh. 15"	Air	sh. 15", sh. 14"
	sh. 18" C1, sh. 11"	
	Norm. C4 norm.	

Turning Tests.

10 turns → nystag. 20" 10 turns ← nystag. 20"

10 turns ↻ nystag. 23" 10 turns ↺ nystag. 23"

Galvanic Test.

Right Side—
Kathode 2 ma. ↺
Anode 3 ma. ↻

Left Side—
Kathode 2 ma. ↻
Anode 3 ma. ↺

July 29, 1920.—Patient reports that after using eyes to read or sew, her eyes become bloodshot and lid of right eye swells. Cannot stand the sunlight as well as formerly. Still has dizziness; has had three attacks since last visit.

Turning Tests.

10 turns → nystag. 14" 10 turns ← nystag. 16"

10 turns ↻ nystag. 19" 10 turns ↺ nystag. 20"

Galvanic Test.

Right Side—
Kathode 3 ma. ↺
Anode 5 ma. ↻

Left Side—
Kathode 4 ma. ↻
Anode 5 ma. ↺

	Weber	sh. 8"
sh. 11", sh. 9"	Schwabach	sh. 7", sh. 9"

+25", +29" Rinné +21", +25"
sh. 18" sh. 17" Air sh. 12", sh. 15"
short C1, short
normal c4 normal

August 27, 1920.—Patient reports her head is somewhat better. Has had three dizzy spells since last visit; one quite bad, others not so severe.

Tuning Fork.

Weber Indifferent
sh. 6", sh. 5" Schwabach sh. 7", sh. 8"
+30", +20" Rinné +20", +22"
normal, normal Air sh. 10", sh. 9½"
sh. 12" C1 sh. 27"
norm. c4 norm.

Galvanic Test.

Right Side—	Left Side—
Kathode 2 ma. ↶	Kathode 3 ma. ↷
Anode 2 ma. ↷	Anode 3.5 ma. ↶

October 19, 1920.—Patient's father states that five years ago patient took 15 or 20 grains of aspirin daily for several months. Also pill containing arsenic.

October 29, 1920.—Patient reports that she has been better in regard to the dizzy attacks, but her eyes get very tired when she reads or sews. She states that at times her left ear seems stopped up, lasting only for a second or two.

Tuning Fork.

Weber
sh. 7" Schwabach sh. 7"
+30" Rinné +30"
sh. 7" sh. 7" Air norm. sh. 7"

Urinalysis, Blood, Wassermann Tests—all reported negative.

Eye Examination.—January 10, 1920: Patient has worn glasses for about twelve years. Present glasses were prescribed about one and a half years ago (with drops). Not troubled with headaches but eyes grow tired very easily. In the morning eyes

water a great deal, but diminishes during the day. No burning sensation in eyes. Vision seems fairly clear. Eyelids never stick together when patient arises, but has small amount of pus in right eye. Patient complains of a great deal of dizziness.

Preliminary Examination.—Eyes move well and together in all directions. Convergence good. Stationary under cover for distance and for near. Tension normal both eyes. Lacrimal apparatus normal. Ocular and palpebral conjunctiva slightly congested; no secretion. Lower part of both eyes several tortuous vessels. Pupils round, equal in size; react normally to light, accommodation and convergence.

Oblique Illumination.—Cornea brilliant, transparent, anterior chamber normal depth. Irides blue, normal texture. Pupils round and black.

Vision with present correction:

Right 6/6
Left 6/6

Ophthalmoscopic Examination.—Media clear, both eyes. Indirect O. D.-disc elongated, axis 90, sharply defined. Physiological cup medium size, poorly defined. Veins appear overfilled. Slight amount of connective tissue extending along the vessel and limited to the disc. Size and distribution of vessels normal, macular region normal, fundus, normal. Direct examination same findings as indirect.

Indirect Examination.—O. S.-disc elongated, axis 95, sharply defined. Physiological cup small, fairly well defined. Lamina cribrosa indistinctly visible. Size and distribution of vessels normal. Macular region normal, fundus normal. Direct examination, same findings as indirect.

Homatropin Refraction, same day:

Right+.25 ⌒2.25 x 90 deg.=6/6+.
Left +.37 ⌒-2.12 x 90 deg.=6/6.

(Patient had been wearing:

Right—25 ⌒-2.00 x 90 deg.
Left -2. cyl. x 90 deg.)

January 16, 1920.—No vertical or lateral Het. With Maddox rod test and with new correction:

Right+25 ⌒-2.25 x 90 deg.
Left +37 ⌒-2.12 x 90 deg. } =6/6

January 17, 1920—Glasses O. K.

May 3, 1920.—Patient reports eyes still get very tired, especially right eye when reading for only a short time or when riding on cars. Claims that upper right lid is swollen very often and eye waters a great deal.

May 7, 1920.—Patient reports that eyes still water a great deal and still feel very tired after reading; right eye worse than left.

Case I is a case of neurolabyrinthitis due to the pernicious effect of the salicylate of cinchonae, a drug in rather common use.

Case II is strongly suggestive that the neurolabyrinthitis is due to the neosalvarsan and not to syphilis, because the condition is produced by the intravenous injection of neosalvarsan and then disappears after several days as evidenced by the tuning fork tests.

Case III. Here the causative factor of neurolabyrinthitis is rather obscure since after the most diligent search no source of focal infection was found; from the history and clinical course of the case, the cause would seem to have been the continued use of aspirin, to which she was susceptible, plus the effects of the arsenic compound.

In closing the writer desires to express his thanks to the Southern Homœopathic Medical Association for the privilege of presenting this paper upon a subject that holds for the investigator a wealth of interesting and valuable data.

1831 Chestnut Street.

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Senile Cataract.—A. Vogt, *Schweize. Med. Woch.*, September 2, 1920, Abs., *J. A. M. A.*, October 16, 1920. In regard to the structure and to the course of senile cataract since the introduction of the Gullstrand light, there is an essential difference between the findings in old age and those which result from exogenous disease. Natural senile changes are as much of a mystery as life itself, and they are inherent in matter and cannot be warded off. The different parts of the lens develop senile changes independently of each other and in different degrees. H. L. G., Jr.

FOREIGN BODY IN THE EYE—CASE REPORT.*

D. W. Weaver, M. D.

Greensburg, Indiana.

H. S., age 15, reported to me December 4th, giving a history of an injury to her left eye some time in July. She was removing wash from a washline and something struck her in the eye causing intense pain, which remained very severe for the remainder of the day and the night following. In the morning she consulted her family physician, who examined the eye, but could see no foreign body. He prescribed eye-lotions and "easing" tablets.

The pain gradually subsided, but she would have recurring attacks of pain and redness. She started to school in September, but close application of the eyes would produce severe pains in the left eye, and dimness of vision.

When she consulted me, four and one-half months after the injury, I found the cornea normal, a deep ciliary and conjunctival injection; pupil regular; iris gray and clear; but about 3 mm. from limbus toward the pupillary margin I found a protrusion into the anterior chamber of what appeared to be a splinter of wood, the point barely protruding beyond the anterior surface of the iris, nasal side of left eye.

I cocainized the eye and made a linear corneal incision toward the center of cornea immediately over the foreign object. The incision was about 2 mm. in length, and with my iris spatula I produced, by gentle pressure, a complete collapse of the cornea over the object. I succeeded in pressing the corneal gap over the point, and with a Fuchs capsule forceps seized the object and to my surprise extracted a pin three-quarters of an inch in length.

The pin was the pin-part of a small nickel-plated safety pin, showing a slight curve at the blunt end, which was the end imbedded in the posterior chamber of the eye. The direction was backward and inward.

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* Presented at the Annual Meeting of the O., O. & L. Society, Cleveland, Ohio, June, 1920.

The patient made an uneventful recovery with a vision of 20/30 with glasses.

The foreign body entered the eye, blunt point foremost, passed through the cornea, anterior chamber, iris, ciliary body and posterior chamber, and the posterior end must have passed into the retina and choroid, because the direction was inward as well as backward. It was inward enough to miss the capsule and extended from anterior surface of iris backward three-quarters of an inch.

The surprising feature of the case is that this foreign body imbedded in the danger-zone of the eye remained four and one-half months without any serious after-result.

DISCUSSION.

W. B. Kreider, Goshen, Ind.: Eye-injury is an anomaly; each injury is a case unto itself and is seldom met in reduplicate; hence it is all the more interesting, as the surgeon is placed on the initiative. A case of penetrating eye-wound treated successfully, with resulting good vision, offers no ground for criticism—rather congratulations on its issue.

Let us philosophize a little bit and notice whether the congratulations should not be divided between the surgeon and the patient. Nature also was kind to the little Miss who happened to have her eye in line with a broken pin three-fourths of an inch long, flying with such force as to penetrate beyond its length. The maiden seemed free from any source of focal infection, such as an ulcerated tooth or diseased tonsils, and escaped infection from without, as the missile, missing the crystalline lens by a margin, no doubt touched the ciliary body. Congratulations then on a non-infected wound, and on missing the lens; had it been wounded the usual complication—a traumatic cataract—would have ensued.

The essayist's case was skillfully treated and needs no criticism.

To further the discussion I may be pardoned in presenting a case of penetrating wound of the eyeball without a foreign body within the eyeball.

December 10, 1916, Mr. M., age 32, farmer and teacher by occupation, drove seven miles from the country to my office in the evening, and gave this history: While in the barnyard driving a cow into her shed, he hit the cow gently with the round end of a four-

pronged dung-hook; the movement of the cow at this critical moment rebounded the implement, and one of the prongs entered the left eyeball on the nasal side about three millimeters from the corneal border.

Ocular inspection revealed a congested eyeball, slight hemorrhage at the point of entrance, and a narrow oblong pupil, its apex toward the wound; the pupil had the appearance of a coloboma but proved only so in appearance, as the sequel showed. The reflex was obscured.

The indications for treatment are:

First, to be sure no foreign substance was carried into the wounded eyeball.

Second, to make the wound sterile; for have we not an open wound in close proximity to the ciliary body, which when wounded may give rise to sympathetic ophthalmia?

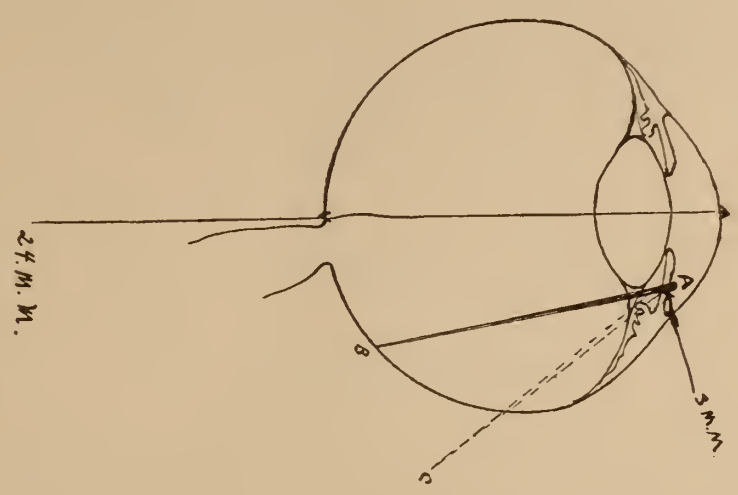
Third, to restore the pupil to its normal: Two expedients are at our command: To operate (an iridectomy) to release the hold on the iris, or the use of a myotic. The latter was the method used, as follows: A fresh solution of eserine instilled in the eye. The action of eserine proved certain, and a gentle pressure over the open wound restored the pupil to its normal; the time taken for the procedure was fully an hour. The patient was under my care at our local hospital for one week and when examined a little later had made a perfect recovery, with vision 20/20.

Wm. M. Muncy, Providence, R. I.: This is a most interesting case and I congratulate Dr. Weaver on the good judgment he showed in his method of attacking such a foreign body. This is especially so as he judged it to be a splinter of wood. However, an x-ray plate would not only have domonstrated it to be of other material, but also have given him a knowledge of its length and the position of the posterior end.

There are two or three cases where foreign bodies have been seen in the iris in about the same locality as the protruding point of the pin, which have shown remarkably slight evidences of irritation. Dr. Allport reported one of these cases where the patient simply complained of a "watering of the eye."

As we lack an X-ray picture let us attempt to visualize the position of the pin in situ. The antero-posterior diameter of the eye is, roughly speaking, one inch, or 24 mm. At the limbus the distance across the anterior chamber is 11.9 mm. The protruding

point of the pin in this case was 3 mm., or a little less than ¼ of the distance from the corneo-scleral junction. This places it opposite the zonule of Zinn. The pin is ¾ of an inch in length.



From the simple sketch I have made, if it had entered obliquely enough to have passed through the dangerous zone of the ciliary body it would have penetrated a considerable distance, as C. A., into the orbital tissues, and the excursions of the eye would have produced a different history than we have here presented. Further, it is not probable that there would have been sufficient force to have carried the blunt end through the tunics of the eye a second time. Probably the posterior end was fixed in the tissues of the choroid in such a position as A. B.

The traction upon the iris and perhaps interference with the zonular fibers using the eye for close application would account for the symptoms developed when the patient attended school.

This is a most unique case and we all wish to thank Dr. Weaver for his bringing it to our attention.

The Editor suggests that the readers of the Journal when making a purchase of supplies—all other things being equal—patronize the supply-houses that advertise in our Journal.

CASE REPORTS ILLUSTRATIVE OF THE BENEFICIAL RESULTS OF NOSE AND THROAT OPERATIONS FOR HEADACHE, EXOPHTHALMIC GOITRE, ATROPHIC RHINITIS AND TRIFACIAL NEURALGIA, TIC DOULOUREUX.*

M. W. Conrow, M.D.,

Springfield, Mass.

THE cases following are not cited to show any superiority of operative method or diagnosis but to add to the sum total of the knowledge and experience of you all, and to express the satisfaction that comes to any of us when the results hoped for in certain troublesome disease entities follow so unmistakably the remedies applied.

It has been a help to me to consider the nose as a machine into which raw material is fed in the form of air in two streams, is processed by the peculiar structure of the nose, and emerges at the posterior nares in two parts which combine in a harmonious, balanced product fit for the lungs. When this balance is not maintained nervous and mechanical disturbances are set up, resulting in diseased conditions which we are called upon to treat. To do this successfully it is essential that we restore this lost balance. If, for example, there is a considerable deflection of the nasal septum, leaving one side unduly large, then the column of air passing through that side is not properly processed by the turbinates, etc., and so reaches the posterior parts dry and with an undue amount of dust particles to dry and infect the membranes and their secretions with a consequent tendency to atrophic rhinitis in many cases.

Also, if two adjacent parts of the nasal passage, as, for example, a turbinate and the septum or some projecting part of it, as a spur or ridge, are so placed that while normally they are not in contact, and if a sudden chilling of the body by drafts or irritation by pollen or dust causes a congestion of the nasal mucosa,

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Presented at the Annual Meeting of the O., O. & L. Society, Cleveland, O. June, 1920.

then the swelling brings immediate contact, and the "short circuit" signals the brain from the two points and a downpouring of mucus occurs to wash out the intruders, with a resulting acute rhinitis, or in the case of tenacious pollens, a hay fever.

Further, if there are two parts, like the middle turbinate and an excessively deflected septum, in apposition with pressure, then we have the troublesome headaches that are so often treated for causes such as liver, constipation, eyestrain, etc.

The fact that the nerves of sensation in the nose are chiefly derived from the fifth cranial nerve makes me think that many cases of trifacial neuralgia which are treated by alcohol injections and nerve ganglion avulsion, could be relieved or cured by an assiduous search for and correction of some nasal abnormality, however trifling it appears.

Exophthalmic goitre is not usually considered as a nasal disease, but from the standpoint of the undisputed inter-relationship of the ductless glands, pituitary derangement might be caused by ethmoid disease, and then indirectly affect the thyroid. This seemed true in two of my cases, while focal infection from diseased tonsils seemed the etiological factor in the third.

Case I.—Miss G. C., age 25, actress in a local stock company, came to me in August, 1913. Complained of nasal obstruction and had been treated for some heart disability. Examination showed septum deflected to the right, nasal catarrh, lingual tonsils hypertrophied, voice husky, thyroid enlargement worse on the right side and exophthalmos more marked on right side. Septum resection was advised but could not be done till December, so Dowling's tamponade was used with manifest improvement. After the nasal operation, which disclosed many small ethmoidal polypi—which were pretty thoroughly curetted out on both sides, improvement was marked in all nervous and heart symptoms, so that she took with ease dancing and singing parts which before had exhausted her.

Case II.—Miss C. C., age 31, stenographer and bookkeeper, came to me January 12, 1914. Nasal obstruction; thyroid enlargement; exophthalmos; tachycardia. Examination showed septum deflected to the right and lingual-tonsil hypertrophy. She complained also of choking sensations. Argyrol tampons were used

till February, when a septum resection and removal of parts of the the middle and inferior turbinates were effected. Recovery was rapid and improvement so marked that she soon stopped coming for treatment or observation, but later sent to me a little girl who had some thyroid enlargement but no symptoms and no nasal signs —whom I advised to do nothing. But she had the thyroid removed with immediate loss of voice.

Case III.—Miss A. L. K., age 27, stenographer and typist. Enlarged thyroid; tachycardia; exceedingly nervous and irritable; semi-delirious at menstrual period: menses profuse. Tonsils very large and cryptic. I removed them in 1911 under local anesthesia, with no nervous reaction. In this case there has been a slow but steady disappearance of the thyroid symptoms and the thyroid enlargement is scarcely noticeable. Several prominent surgeons had advised thyroidectomy and she had taken much treatment of one kind and another with little result.

Case IV.—Mrs. A. M. D., age 36. Came to me in January, 1914, with atrophic rhinitis, pharyngitis sicca and laryngitis sicca. Treatment was instituted with argyrol tampons, applications of thigenol and irrigations, with temporary improvement. As she had a septal deviation to the right with a large left naris I proposed operation. But she refused till June, 1916. Healing was prompt and satisfactory. Improvement has been gratifying to us both as she is able to keep the nose free from crusts by douching, and her breathing power is much better.

Case V.—Miss M. C., age 31. January, 1918. Atrophy with ozena. Septum deviated to left with a large right nasal passage. Silvol tampons followed by thigenol would keep down the odor for several days but it would not last. She was unable to get the crusts out herself, so she finally let me straighten the septum in July of the same year. She kept up treatment once a week for several months, then gradually came less and less often, as conditions improved so much that she has had no trouble keeping the nose cleaned out herself.

Case VI.—Miss Adrienne C. A French student sent to this country by the French High Commission, 17 years old. Gave a history of having fallen down stairs and struck her nose on a stone

floor. She thinks her nasal trouble started from this time. Diagnosis, atrophic rhinitis with ozena. Tonsils hypertrophied; septum deflected to right with a large left passage. On March 10, 1919, did resection. Improvement was rapid, so she was able to cleanse it herself. Her tonsils gave her some further trouble, and on December 9, 1919, I removed them. Since then she has felt very well, and has had to have my help but seldom.

Case VII.—Rev. Dr. F. M. M., age 49. April, 1913. Has had hay-fever for years. Was treated with "cautery and trephine" (sic) for years. Diagnosis, septum deflection to left touching outer wall of nose posteriorly; turbinate hypertrophy, and chronic ethmoiditis. In July I did a resection. Cartilage nearly all osseous, except a small piece in front. One of the first results he noticed was that he didn't tire so much in public speaking. In August he reported some hay-fever, but not to be compared to previous years. Only one day in 1914. No recurrence since, though he spends summers on the same farm where he used to have it.

Case VIII.—Miss E. Le F., age 32. January, 1918. Obstruction of breathing; tires her to breathe. Pain between eyes; impacted cerumen left ear; septum deflected to right, with large posterior spur almost touching outer side; left inferior turbinate compensatory hypertrophy. Next day did septum resection, with left inferior turbinotomy. No hay-fever that year but a severe attack next year; but one silvol tamponade checked it completely.

Case IX.—Howard B., age 16. March, 1913. Mouth breather. Septum deflected extremely to the right, crowding the middle turbinate, while left side had ridge; inferior and middle turbinates hypertrophied. In June did resection and middle turbinotomy. Within a week he was feeling very well and made an uneventful recovery; and no more headaches of which he had had severe ones almost continuously.

Case X.—George R. S., age 18. February, 1920. Came for relief of persistent headache. Septum deflected to right with large anterior knuckle right side, with anterior end of septum projecting into left nostril. Septum resected. No more headache even the first night after the operation, though the nose was well packed.

Case XI.—George B., age 57. Ataxic for years, being obliged to use a cane always. Had tic douloureux some years ago. Has had sneezing attacks of a violent nature for twenty years, worse in morning. Examination disclosed nose full of polypi, which were snared out in several sittings in August, 1917. This resulted in marked improvement in his general health and amelioration of the sneezing attacks. In October, 1919, he came in with typical neuralgic pains over left eye, coming on from sneezing and blowing nose. I gave him some treatment, which didn't help much, and on November 2nd I opened the anterior ethmoid cells on left side. This gave him some relief so he could work a few days, but on the 8th he came in again, when a large polyp had presented itself to view in the anterior ethmoid region. This was snared out and the relief was permanent, with only an occasional twinge, and he has been able to work continuously since then.

ABSTRACTS

The Ethmoidal Problem.—In reviewing the treatment of "old chronic suppurative ethmoiditis," Ross Hall Skillern concludes that many cases fail to derive benefit from treatment because the rhinologist has failed in the old maxim, "Find the pus and follow it to its source." Dr. Skillern feels that only after the most painstaking effort to find the cause should operation be resorted to. He concludes that "operative procedures upon the ethmoid, unless slowly, carefully and systematically carried out, are most apt to spell disappointment, and radical operations upon this structure do not by any means always end in radical cures."—*Laryngoscope,* November, 1920. W. G. S., Jr.

The Motor Neuroses of the Larynx.—In the *Laryngoscope,* September, 1920, appears an article by G. W. Mackenzie in which he accepts the classification of Schnitzler in disturbances of motility of the larynx. They are divided into (a) hyperkinetic motility disturbances, which include spasm of the larynx, laryngeal vertigo and nervous laryngeal cough; (b) co-ordination disturbances, under which are found phonatory glottis cramp (aphonia

spastica) and inspiratory glottis cramp; (c) hypokinetic disturbances (paresis and paralysis); under this heading are superior laryngeal nerve paralysis, and inferior (recurrent) laryngeal nerve paralysis. W. G. S., Jr.

Blows Upon the Eyeball in the Region of the Ciliary Process: Their Medico-Legal Aspect.—G. Herbert Burnham, *Amer. Jour. Ophthal.*, November, 1920. After citing two cases in detail the author concludes that "the opinion of an oculist consulted for the first time at the end of—say two months—as to whether the eyes can be freely used is of little or no value if the decision be based only upon the condition noticed by the second oculist, as previously mentioned."

From the possible medico-legal point involved he further states that "the second oculist should not only say what he sees on examination, *i. e.*, that the eye is apparently normal; but also in order to diagnose correctly should always have full knowledge of the history and the peculiarities attendant upon these cases."

W. G. S., Jr.

Innervation of Tensor Veli Palati and Levator Veli Palati Muscles.—A. R. Rich, *Johns Hopkins Hosp. Bull.*, September, 1920, Abs., *J. A. M. A.*, October 16, 1920. The author determined that the fifth nerve is the only cranial nerve which supplies motor fibers to the tensor veli palati muscle. The failure of most clinical observers to detect paralysis of the palate in cases of disease of the fifth nerve arises from the fact that the tensor veli palati exerts, ordinarily, no effect on the soft palate that can be detected by oral examination. The method of intracranial stimulation, combined with experimental paralysis of the muscle produced by nerve section, places the motor supply of the levator veli palati muscle in the so-called bulbar portion of the eleventh nerve—(more properly speaking, in the inferior rootlets of the tenth nerve, since the bulbar portion of the eleventh has been shown to be, in reality, an integral part of the vagus). H. L. G., Jr.

Eye Sign of Facial Paralysis.—J. Santa Cecilia, *Brazil-Medico,* July 10, 1920; *Jour. A. M. A.,* October 16, 1920. The author calls attention to the high position of the cornea, on the side affected with facial paralysis, when the patient looks down.

H. L. G., Jr.

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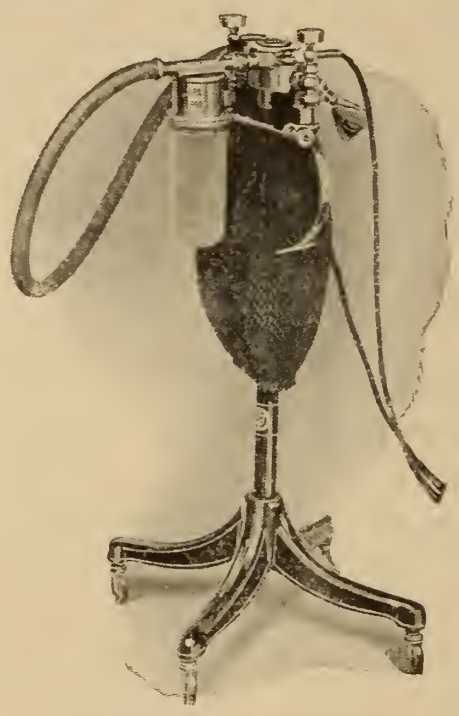

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Editorial

MID-WINTER MEETING OF THE O., O. & L. SOCIETY.

FOR several years past the officers of the O., O. & L. Society, together with the editor and managers of the JOURNAL and a few of the more active members of the Society have been in the habit of meeting for one day in the winter for the purpose of discussing Society and JOURNAL affairs and promoting their mutual interests. The Mid-winter Meeting this year was held on February 6th, at Pittsburgh. With the possible exception of the Cincinnati meeting five years ago, the Pittsburgh meeting eclipsed all others from the standpoint of attendance, the character of the clinical program, and the amount of interest manifested by all in the objects for which the meeting was called; so that in every respect the meeting was a success and will go down in the annals of our Society as a red letter one. During the morning session, which began at 10 A. M., and lasted for more than three hours, several rare and interesting cases were presented by the local men. General discussion by visiting members followed the presentation of cases.

A sumptuous dinner was served at the University Club for the thirty or more local and visiting members, following which the local members treated the visiting ones to a one-hour sight-seeing trip in their private cars.

About 5 o'clock in the afternoon the meeting convened again at the William Penn Hotel to discuss Society and JOURNAL matters. This session lasted for three hours, throughout which there was no end of interest shown. Dr. William McLean, of New York, Chairman of the Eye Bureau, made a very satisfactory preliminary report, the details of which will appear later. Dr. Sowers, of Chicago, Chairman of the Nose and Throat Bureau, made an equally satisfactory report. Dr. Burton Haseltine, of Chicago, in charge

of the Bureau of Medical Economics, reported considerably more than progress. After the experience of last year's successful session he feels that, with the able assistance of Dr. LaForge, the prospects for this year's session are even more promising than they were this time last year. Everyone agreed that last year's meeting at Cleveland was, from every aspect, the most successful in the history of the Society, due largely to the re-establishment of our official JOURNAL. The prospects for the coming year are still better. Considerable attention was given by those in attendance to the subject of our JOURNAL. The unanimous opinion was that the JOURNAL is an essential asset of the Society and should be maintained.

Supper was served in a private room of the hotel adjoining the meeting-place, after which the meeting adjourned.

The President feels that he voices the opinion of those who attended the Mid-winter Meeting in Pittsburgh that mid-winter meetings should by all means be continued.

Pittsburgh members have earned a vote of thanks from the Society as a whole for the cordial welcome they extended to the visiting members and for the excellent program they provided.

G. W. M.

MINUTES OF THE MID-WINTER MEETING OF O., O. & L. SOCIETY.

THE Special Meeting of the Homœopathic O., O. & L. Society, held at the Old Colony Club, Pittsburgh, Pa., Sunday, February 6, 1921, was called to order by President Mackenzie at 5 P. M., twenty-three members being present. A clinic had been held in the morning at the hospital, several very interesting cases being presented and discussed. The local members of Pittsburgh had kindly taken everyone for a drive around the city after lunch. Dr. Denman brought up the matter of the publication of the JOURNAL, stating that it was costing the editor personally about $1200.00 a year. He suggested that a committee be appointed to work out a plan to assist in financing the JOURNAL. Dr. Haseltine suggested that each member subscribe for a number of copies to be distributed among his friends. In this way, the subscription list

would be greatly increased, the treasury augmented and, with the increased subscription list, more advertising could be secured. Every member present promptly followed Dr. Haseltine's lead. The following men present subscribed: Haseltine, 25 subscriptions; Myers, 25; Blackburn, 10; Yost, 10; Simpson, 10; LaForge, 10; Stephens, 5; Moon, 10; Cooper, 15; McLean, 10; Alexander, 5; Shemeley, 10; Moore, 3; Williams, 8; Sowers, 10; Bryson, 10; Metzger, 10; Denman, 15; Bentley, 15; Stitzel, 10.

Dr. Mackenzie made a report on the meeting of the O., O. & L. Society with the Southern Homœopathic Society held at Richmond, Va., in December. Eight papers were presented by members of the O., O. & L. Society and the attendance of the O., O. & L. men was a great stimulus to the Southern Society. The papers were very well received.

There were very encouraging reports from the Bureau Chairmen who were present. Dr. McLean, Chairman of Ophthalmology, stated that he was corresponding with two European men of international reputation and hoped to have one or both of them present at our June meeting. He had also secured promises for the following papers: "Medical Treatment of Eye Conditions," Dr. Walter M. Yost, People's Bank Building, Rochester, Pa.; "Two Rare Cases of Tumor Involving the Optic Chiasm," Drs. Metzger, 302 National Bank Building, Pittsburgh, and S. B. Moon, 804 Westinghouse Building, Pittsburgh, Pa.; and a paper by Dr. Moore.

Dr. Alva Sowers, Chairman of Laryngology, reported the following list of papers: "A Few Nose and Throat Problems," Dr. McDermott, St. Joseph Sanitarium, St. Joseph, Mich.; "Dressings and After-Care Following Intranasal Surgery," Dr. Ira O. Denman, Toledo, Ohio; "Some Modification in the Resection of the Nasal Septum," Dr. Coffman; "Hyperplastic Ethmoiditis; a Résumé of Literature and Observations," Dr. Harry M. Sage, Columbus, Ohio; a paper by Dr. Stitzel; "Limitation of Radiograms in the Diagnosis of Dental Pathology," Dr. Hubeny, and "A Sphenoid Case," Dr. H. R. Wynn, Ann Arbor, Mich.

The following ear papers were also announced: Dr. Haseltine has secured a most interesting ear paper by Dr. Frank Novak, attending otologist of Cook County Hospital, of Chicago, who will report for the first time the results of his investigations on clinical use of laboratory tests in a series of brain tumor cases. He

has made a very critical study of the labyrinth. "Relation of Posterior End Hypertrophies to Ear Conditions," by Drs. Muncy and Williams; ear paper by Dr. Alexander, of Philadelphia, Pa.; "The Value of Laboratory Tests in Syphilis," by Dr. John G. Wurtz, the well-known pathologist of Pittsburgh; an ear case by Dr. W. G. Shemeley, and a paper by Dr. Wm. C. McKnight, of New York City.

Dr. Hazeltine, Chairman of Medical Economics, outlined a very snappy and interesting program for the Bureau of Medical Economics.

Among other papers, Dr. Frank Wieland, of Chicago, will, by invitation, present a paper on "Medical Service as a Commodity in the Industrial World."

The cold narration of the minutes of this meeting cannot portray the marked enthusiasm that was rife. When you consider that this was practically a committee meeting and twenty-three members were present, you will know that there was a splendid enthusiasm. This bespeaks a very enthusiastic and successful meeting in Washington, D. C., in June. NEIL BENTLEY, *Secretary.*

PRELIMINARY REPORTS OF BUREAU CHAIRMEN.

MEDICAL ECONOMICS.

"The Need of Economic Education in the Medical Profession," Burton Haseltine, Chicago, Ill.

Discussion opened by Gilbert J. Palen, Philadelphia, Pa.

"Medical Service as a Commodity in the Industrial World,," Frank Wieland, Chicago, Ill.

Discussion opened by Martin Z. Westervelt, New Haven, Conn.

"Practical Results of Business Education Among Physicians," A. W. La Forge, Chicago, Ill.

Discussion opened by Seymour B. Moon, Pittsburgh, Pa.

BURTON HASELTINE, *Chairman.*

NOSE AND THROAT.

Dr. J. J. McDermott, St. Joseph, Mich., "A Few Nose and Throat Problems."

Drs. Muncy and Williams, Providence, R. I., "Relation of Posterior End Hypertrophies to Ear Conditions."

Dr. I. O. Denman, Toledo, Ohio, "Dressings and After-Care Following Intra-Nasal Surgery."

Dr. M. B. Coffman, Richmond, Va., "Some Modifications in the Resection of the Nasal Septum."

Dr. Harry M. Sage, Columbus, O., "Hyperplastic Ethmoiditis: A Résumé of Literature and Observations."

Dr. M. J. Hubeny, Chicago, Ill., "Limitations of Radiograms in Diagnosis of Dental Pathology."

Dr. H. R. Wynn, Ann Arbor, Mich., "Sphenoid Case."

Dr. W. B. Bryson, Pittsburgh, Pa. To be announced.

Dr. K. S. Simpson, Pittsburgh, Pa. To be announced.

Dr. A. D. Williams, Huntsburg, Ohio, "Hay Fever."

Alva Sowers, *Chairman.*

OPHTHALMIA IN EGYPT—WORK OF THE HOSPITALS —REPORT FOR 1919.

(The following letter from Dr. J. R. McCleary, former business manager of the Journal, who is making a tour of the world, was recently received by the editor. The "clipping" to which he refers is the report on "Ophthalmia in Egypt," printed herewith.—Ed.)

Luxor, Egypt, S. S. "Thebes," Jan. 20, 1921.

My dear Mackenzie:

Was just glancing over one of the Egyptian papers and was quite interested in reading the within enclosed clipping, and thought that you might like to read it—so herewith enclose same for you.

Have often thought of you and the "bunch" this winter. Have had a wonderful trip through Japan, Korea, China, India, Ceylon, and now Egypt.

Am trying to reach the States in time for the June O., O. & L. meeting. Hastily and sincerely yours,

McCleary.

THE Department of Public Health has issued the report for 1919 of the Director of Ophthalmic Hospitals.

The number of new patients treated at these hospitals was 76,525, the number of operations performed was 49,974, and

the total attendances of out-patients was 906,961. This work was carried out at the eighteen hospitals which have been established in the country districts since, in 1903, Sir Ernest Cassel made his gift of L.E.40,000, which was the inception of the undertaking.

Four of the hospitals are traveling camps under canvas; it is owing to the reputation gained by them that Egypt has learned to value the means of ophthalmic relief and to obtain it by building permanent hospitals. Eleven of the hospitals are maintained by the Government and five from the funds of Provincial Councils and two from the interest of the Cassel Fund. The actual amount raised locally for capital expenditure is L.E.82,373, excluding Sir Ernest Cassel's original donation. The annual cost of the whole system of hospitals, including expenses of administration during 1919, was L.E.31,193, of which the Provincial Councils contributed L.E.3,406.

CAUSES OF BLINDNESS.

The need for ophthalmic treatment has two entirely separate origins. The first is the prevalence of a chronic disease of the membrane lining the eyelids, trachoma, and the other is a group of acute contagious ophthalmias which are the main cause of blindness in Egypt. More than 12,000 patients who sought treatment at the hospitals during 1919 were blind in one or both eyes; this is 15 per cent. of the new patients. A system of prophylaxis has yet to be discovered. The clinical research work which is being carried out at the ophthalmic laboratory, at the ophthalmic hospitals, and at the ophthalmic clinics of each of the Government primary schools all over Egypt, should eventually shed some light on prophylactic measures. The importance of obtaining treatment for babies and children attacked by ophthalmia is beginning to be recognized by the people; more than 6 per cent. of all patients treated were under the age of one year, and 39 per cent. were under the age of fifteen years. Each of the fourteen provinces is now provided with an ophthalmic hospital, except Kena and Assouan. Kena, however, has subscribed L.E.15,200 to build a hospital and the plans are being prepared. The Government has recognized that the province of Assouan is too poor to provide the necessary sum for building, and although it was not possible to grant this in the current budget it is hoped that next year it will be granted.

CAIRO'S NEEDS.

The provision of a special ophthalmic hospital for Cairo is urgently required for three reasons: First, because there is insufficient ophthalmic out-patient relief available for the immense number of persons in Cairo who suffer, more especially during the hotter months, from painful and destructive diseases of the eye. It ought to be known more widely that it is impossible, with the existing hospital facilities of Cairo, to cope with the vast number of patients who come to hospital demanding operation and treatment. An admirable and central site has been granted by the Government which is prepared to maintain the hospital if funds can be obtained by subscription. The hospital should be equipped with at least 100 beds and be able to treat 2,000 out-patients daily in the summer.

The inspecting staff, which should consist of four surgeons, has been reduced to two Egyptian surgeons since the beginning of the war. Two posts are now vacant. During the summer of 1919 when one of the posts was thoroughly advertised in England, there were no serious candidates. The holder of the post must have considerable ophthalmic experience and an aptitude for teaching.

SUMMER WORSE THAN WINTER.

The micro-organisms which cause acute contagious ophthalmias in Egypt are mainly the gonococcus, the bacillus of Koch-Weeks, and the diplobacillus of Morax-Axenfeld; the pneumococcus is comparatively rarely met with, only in 361 cases out of a total of 10,211 positive microscopical examinations under the oil-immersion lens made in 1919. The seasonal variations of the various organisms have been described in detail in the 1918 and previous reports and did not show any material variations in 1919; the conclusion drawn may be quoted: "We have found that the number of new patients who present themselves for treatment is very much greater in the summer than in the winter. This may be due, to some extent, to the shorter days of winter, giving less time for those who come from a distance to go to and come from the hospital, and to the condition of the roads during rainy weather preventing traveling, but is mainly due to the increased amount of communicable eye disease, that is, acute conjunctivitis, during the sum-

mer months. We have previously shown that neither atmospheric humidity nor variations in the level of the Nile bear any relation to this increased incidence of conjunctivitis.

"While in December and January the new patients are about 4,000 or 5,000 per month, in August they number 10,000."

NOT A VENEREAL ORIGIN.

The report distinguishes between the European and Egyptian origin of the disease thus: It is to be noted that the gonococcus has not a venereal origin in Egypt, but is transferred from eye to eye mainly by means of fingers, garments, and towels. The part played by flies in the transmission of bacterial eye infections is not certainly known, but is not believed to be a large one. Investigations are now in progress in conjunction with the Entomological Section of the Ministry of Agriculture and the Bacteriological Laboratories of the Department of Public Health on the role played by flies in the transmission of eye diseases. At the present time our knowledge of the special habits of Egyptian flies requires considerable enlargement before any bacteriological or clinical work can be done in relation to them. There is no existent curve showing the seasonal variations in the numbers of flies in the various parts of Egypt. Until the entomologists provide this we cannot connect with the insects the incidence of acute eye diseases, which already show such a marked dependence on the seasonal variations in temperature.

POSSIBLY ANOTHER ORGANISM.

There is considerable difference between gonococcal conjunctivitis in Egypt and in Europe. In the first place the origin of the condition in Egypt is almost invariably the result of contagion acquired from the conjunctival discharge of a neighbor, whereas in Europe it usually has a venereal origin. This does not mean that gonococcal urethritis is uncommon in Egypt. In the second place the gonococcal conjunctivitis met with in Egypt is characterized by the frequency of subacute and chronic forms. Thirdly, there is a definite seasonal variation in the incidence of gonococcal conjunctivitis; increased prevalence being markedly influenced by the rise of atmospheric temperature which occurs annually in the

spring, as shown in my last report. Fourthly, the disease when treated is apparently less destructive than in the cases I remember when house surgeon at the Royal London Ophthalmic Hospital; whether this is because we treat it more skilfully or because the gonococcus is less virulent, or because the reputed gonococcus of Egypt is not the gonococcus at all, but another morphologically similar organism, remains to be decided.

BLINDNESS IN EGYPT.

More than twelve thousand patients (12,815) were examined during 1919 who were found to be blind in one or both eyes. Those who were completely blind in both eyes numbered more than four thousand (4,278). The cause of blindness in the great majority of cases is acute ophthalmia caused by one of the bacteria which produce this condition, usually the gonococcus.

Besides conjunctival conditions there are three other main causes of blindness in Egypt. These are primary glaucoma, cataract, and optic atrophy.

OPHTHALMIC TREATMENT IN SCHOOLS.

The ophthalmic treatment in schools, which commenced at Tanta in the year 1907, is now carried out at all the capital towns of provinces where there is an ophthalmic hospital. The active or serious stages of trachoma have been reduced from 62 per cent. to 8 per cent. since treatment has been in force.

Spectacles have been ordered for 242 pupils. On the day of the general inspection, 155 pupils were wearing their correction, 66 pairs of spectacles were on order or under repair, while 21 pupils were not wearing their glasses, either because they did not like them or because they had forgotten them at home. This result is satisfactory as compared with the years 1913 and 1914. It is a matter of great importance to note that 37 per cent. of the pupils have sufficiently good vision to enable them to attain to the very low visual standards demanded for candidates to ranks of the pensionable civil service (6/12 and 6/12 or 6/6 and 6/18). This defect of vision can only in certain cases be corrected by spectacles; 113 pupils were enabled to attain to the Government standard, while 129 pupils who were refracted under atropin failed to reach this degree of vision.

The deficient vision is due in a large number of cases to corneal opacity (15 per cent. of all the pupils have an opacity in one or both corneae); this opacity in some cases is due to cicatrisation after ulceration, and in other cases to trachomatous pannus. In yet other cases to ametropia, frequently astigmatic. The maintenance of a satisfactory correction of the ametropia is not an easy matter, considering the changing curvature of the cornea occurring during the cicatrisation of trachoma, and the difficulty and expense of providing glasses under post-bellum conditions.

The Report is to be had from the Government Publications Office, Old Ismailia Palace, Sh. Kasr. el Aini, Cairo, at P.T.5.—*The Egyptian Gazette,* Monday, January 17, 1921.

TO THE MEMBERS OF THE O., O. & L. SOCIETY.

THE annual meeting this year will be held in the beautiful city of Washington, D. C., our nation's capital. A meeting held in such a place should be well attended and full of interest, and with every member doing his part it surely will be a success. Because of the interest shown by so many members, and the untiring efforts of the bureau chairmen, the Cleveland meeting last year was a banner one in attendance and in the quality of the papers presented.

For this year enough material has already been promised to assure the success of the meeting, and it is the aim of the bureau chairmen, working in collaboration with President Mackenzie and the Secretary, to give this year a full program of choice subjects.

Dr. Mackenzie has asked me to take charge of the Bureau of Ophthalmology, and to you, members of the Society, I appeal for material to help round out a full and useful session. Any new instrument which you may have devised, or a new operation or method of treating an ocular condition, or the report of interesting cases, will be given a place on the program if you will notify the Chairman of the Bureau of Ophthalmology at the earliest possible date and before the program has been completed.

Very truly,

(Signed) WILLIAM MCLEAN,
Chairman, Bureau of Ophthalmology.

APPLICATION OF THE BARANY TESTS.

Ralph I. Lloyd, M.D.

Brooklyn, N. Y.

Read at the Annual Meeting of the O., O. & L. Society, Cleveland, Ohio, June, 1920.

THE Barany Tests have been accepted as more or less efficient tests of the semi-circular canals. There are some who claim for them a much wider field of usefulness than others. There are those who say they are of little use, except as tests of the canals, notably Cushing. The advocates of the wider sphere claim that reflex areas may be tested out much as the well-known patellar reflex is tested out, with this difference: that the stimulus is not applied and the effect is not observed in the same area as is the case in the simple knee-jerk. In the case of the knee-jerk, the anatomist will say that two or three neurons are primarily involved, but who can say how many are involved in the simplest of the other tests?

While much has been accomplished in differentiating nerve routes in the past twenty years, to say that we *know* the routes involved in the Barany Tests is to flatter human knowledge. In addition to the stimuli applied to the internal ear are the accessory influences of sensations, such as air currents in contact with one side of the face more than the other; the varying muscle tension according to direction of turning, etc.

Certain routes are accepted, however, such as the one in case of the nystagmus-internal ear, nerve, nucleus, posterior longitudinal bundle to the nuclei of the nerves of the eye muscles. There must be some impulses diverted by association pathways downward to muscles of the trunk and limbs. The pathway of the cerebral influence which produces the quick component of the nystagmus is assumed to be the usual route from the cortex to the eye nuclei.

The impulses producing vertigo are assumed to travel through the nerve to the medullary nuclei and to the cerebellum, by way of the posterior peduncle in the case of the horizontal canal and *through the middle peduncle of the same side, in the case of the vertical canals.*

From the cerebellum they go to the cerebrum and the impulses are sent down the usual muscular nerve-control routes, giving the falling or compensating movements, while in case of the pastpointings, the descending influences are modified by the hemispheres of the cerebellum producing the deviations to the right or left as the case may be.

This is but a moderate list of routes which can be safely said to be used, but gives an idea of the staggering intricacy of the nerve-chains.

There are other factors which serve to complicate the method, which it is hoped will do something to aid in localizing cerebral lesions.

A pastpointing may be a distant symptom just as a hemianopsia or a conjugate deviation may be a distant symptom. Then there is that annoying intermediate process known as internal hydrocephalus which is really responsible for the choked disc, anosmia, some of the chiasmal hemianopsias, vertigo, headaches and some of the vomiting. For some time, some of these symptoms were considered to be of localizing value but they should be translated as manifestations of pressure and not otherwise.

An internal hydrocephalus will complicate the responses to vestibular stimuli and certainly will modify pastpointings. Then there is that wonderful adaptation to pressure, if slowly applied, which the nerves and nervous tissues will tolerate. The seventh and fifth nerves in cases of neuro-fibrona of the cerebello-pontile angle, have been compressed to almost the thinness of paper, and but slight evidence of functional defect could be detected.

Claim has been made by some of the men who have much faith in these tests that distant and functional errors or alterations in the reactions can be diagnosed by the ability to overcome a spontaneous pastpointing to the right, let us say, and turn it into a pastpointing to the left when the internal ear is stimulated. A case will be quoted later where this process resulted in another anomaly which placed us in just as doubtful position as the one from which we were removed. Experience with symptoms which occur in brain lesions is interesting and we find some which happen in many cases and mean nothing, while others are reliable and do mean something.

I rather think that we must go through the same experience with the Barany Tests as far as the cerebral part is concerned. Let

us first discuss these tests as internal-ear tests. As such, they are not used as often as they should be and some of them ought to be used in many more cases of chronic ears, both catarrhal and suppurative, than is now the custom. If possible, cases to be operated for mastoiditis should be tried out as is befitting, some more thoroughly than others and especially chronic ears.

Certain generalizations have been made which may be borne in mind. It is said that the canals are not destroyed unless the cochlea is also destroyed; in other words, if your patient can hear, he has not a total destruction. This seems to be a true statement, but the hearing may be destroyed absolutely but the canals respond almost normally as exampled in the case of fistula reported by Auerbach in the *Annals of Otology* for March, 1917.

The relationship of hearing and vestibular response was called first to my attention by Dr. Palen, who said that in cases of deafness if the canals were affected the chances for recovery of hearing were poor. As a prognostic sign, this is of value and has been confirmed several times in cases of otitis media suppurative and catarrhalis chronica.

As an example, we have Mr. N., who says he lost the hearing of his left ear in youth from running ear, which later was cured. His good ear began to run, without pain, and the hearing gradually failed until he depended entirely upon the left ear. He presented himself after considerable treatment, with hearing for the left ear—watch 1 inch, low voice 12 feet, whisper 6 feet. The last ear to be affected hears the watch not at all, low voice 4 feet, whisper 1 foot. When turned, the responses are 13 seconds when turned to the right and 15 seconds when turned to the left. The nystagmus was of fair quality. The discharge has been controlled but the ear as far as hearing is concerned is a ruin.

In some cases the condition of the internal ear can be easily determined with but few of the modern tests; others need more careful testing out and the differential diagnosis of certain internal ear and cerebellar conditions is in some cases one of great difficulty. An easy case is one like Mr. W., who is sent by his physicians because of vertigo. His left ear has been running since childhood and he cannot tell when nor how it began. The membrana tympani is totally destroyed. The inner wall of the middle

ear is completely epidermized and there is foul, partly dried accumulated debris.

He says that he nearly fell as he arose suddenly from his office chair, and that he fell to the left, but when asked to show how he fell, demonstrates that he actually fell to the right; and we are reminded of the necessity of correcting this error which the patient is very apt to fall into because he *thinks* he falls as he states.

The fistula test was positive and there was bone conduction for all the forks but air conduction for C only. The Weber test was indeterminate for C2 and C4, but C is heard best in the poor ear. Whisper is heard at the ear and low voice one foot away. No turning or caloric test was necessary in such a case because the fistula test proves that the canals are functioning and the hearing is not all lost.

Belonging to the group who believe that the internal ear should not be operated as long as the labyrinth is alive, in the absence of a meningeal threat, a radical mastoid was done and the region of the horizontal canal found covered with tough, coarse granulations, which were not disturbed. In thirty-two days we had a completely healed and dry ear.

Turning prior to the operation gave nystagmus for 12 seconds when turned to the right, and 23 seconds when turned to the left. Eighteen days after the operation the same tests gave 9 seconds for either direction and this would seem a rather rapid establishment of compensation. The turning tests are bilateral tests and seem to show unilateral superiority for a time only, and we should expect sooner or later a reduction in the responses for both sides; in other words, a one-sided defect reduces the reaction on both sides.

The caloric test as applied to this particular case after the operation gave a very fine rotary nystagmus for the right ear after irrigating with water at 65 degrees F. for 60 seconds. The delay was more pronounced for the operated ear, as it was possible for the fluid to come in direct contact with the thin wall separating the middle from the internal ear and the nystagmus developed after 70 seconds.

The next type of case walked in just as the previous one had, but with no complaint other than moderate discharge from one ear since childhood. The appearances were the same, but the fistula

test was negative. We are allowed two surmises in such a case: The internal ear is dead; the internal ear is normal. The hearing tests will assuredly give us light, as well as the other tests. The hearing test with a Barany apparatus in the good ear gives the typical response, but it is my humble opinion that this test proves only that the hearing is very bad but not more than that. This particular patient has a very low voice, and he is very keen and realized at once that he was not hearing himself talk, but his voice could not soar as did that of another patient with very much reduced hearing but a robust voice and an aggressive habit. Further testing with Barany apparatus in the good ear and a long conversation tube proved that the affected ear was totally deaf. We must now prove whether we have a destroyed labyrinth or not, and here the turning tests give us 9 seconds when turned to the right and 14 seconds when turned to the left. The left is the affected ear. The caloric test will settle the question of destroyed or crippied canals. The question of differential diagnosis between internal ear and cerebellar conditions will at times employ every form of test that can be used. Unfortunately, in many cerebral cases we are limited to a few because the patient cannot be moved or because his intellect is clouded, but the caloric test can usually be employed. The fact that the patient falls or does not fall, according as the head is placed is one of the most important points to have in mind. But anyone who has had cases of combined internal ear destruction, meningitis and a brain abscess as shown by autopsy will agree that it is easy to overlook everything but the meningitis.

Have had one interesting experience with a case of neurofibroma of the eighth nerve, as shown at autopsy. Cushing, who has had more to do with these cases than anyone else, says the Barany Tests are useful to determine the action or non-action of the nerve, but otherwise are of little value. This case was seen very early and we obtained nothing which was characteristic, only a general reduction of all responses. It would not be reasonable to expect anything else or anything more. Have not seen cases nor reports of cases of small medullary lesions, but it would seem that in this type of case, rare though they are, some localizing evidence might be obtained. Here the nerve impulses pass in various directions, there are a number of nerve nuclei, and the projection pathways are close at hand; we ought to have some interesting data. The

medulla is the floor of that very interesting cavity known as the fourth ventricle, which communicates with the third ventricle above, and posteriorly with the sub-dural space through the foramina of Retzius and Key and the spaces of Magendie.

Enough autopsies and operations have been performed to show beyond question that late in cases of brain tumor, or sooner if the tumor be in the cerebello-pontile angle or in the third ventricle or near it or the fourth ventricle, the pressure in this last named space, fourth ventricle, becomes very high and part of the cerebellum and the brain stem are jammed into the foramen magnum. Jones and Fisher claim that this pressure affects the lateral peduncles of the cerebellum more than the posterior, and as they also claim that the vertical canal fibres pass through the lateral or mid peduncles *of the same side* to reach the cerebellum, this pressure will shut off the responses to the vertical canal stimulation and not affect the horizontal canal response. They have reported a few cases with autopsy which seem to bear this out and I hope to have the opportunity to test it out thoroughly, but such cases are not numerous.

It is through this increase of intra-ventricular pressure that such a symptom as spontaneous pastpointing inward is probably due. Dr. G. W. Mackenzie reports a case of large cyst of the right frontal lobe with this symptom, and I have had a case recently of metastatic carcinoma of the middle fossa of the skull producing complete paralysis of the motor nerves of the eye and two divisions of the fifth nerve. This patient pastpointed inward with both hands, spontaneously. While he evidently had considerable cerebral pressure the vertical canals responded perfectly to the caloric tests, but upon turning the horizontal canals gave a pastpointing outward for both hands with about a normal nystagmus.

The fact that the spontaneous pastpointing inward could be reversed would tend to indicate that it was a functional error, but what about the pastpointing outward when turned with head 30 degrees forward? The middle peduncles were evidently not much affected in this case.

The use of these tests to determine whether a third nerve lesion is or is not supranuclear is very interesting. Have tried quite a number of motor nerve cases which were either abducens paralysis, or third nerve or total eye muscle cases. Some were syphilitic, and

some were apoplectic and one was the tumor case referred to. Some were nuclear and some were peripheral.

The quick return of the nystagmus is credited to the cerebral cortex and it is assumed that absence of the quick return shows abeyance of the cortex. Turning under anaesthesia gives a conjugate deviation instead of a nystagmus, the cortex not acting. A few cases have been reported where autopsy showed a lesion high enough to cut off the cortex from acting and the nystagmus was converted into the vestibular pull without the quick return. Regret that none of this type has come to examination, but the reverse is of some value. It would seem that few eye muscle paralyses are total. The tumor case with all muscles involved gave a strictly unilateral response. The affected eye did not move during any of the tests, but all of the other cases had a limited response in the direction of the paralyzed muscles. The eye would move to the left in a case of right abducens paralysis, but the return for the affected eye would be limited by the midline.

Supranuclear lesions are not common, but this is a field of action for these tests where the theory of them and the anatomy of the parts concerned, together with data as far as we have gone, all seem to harmonize.

The cerebellum has been the object of considerable study during the last ten or fifteen years, and it seems in a fair way to leave the company of the spleen as an organ of little value because little is understood as to its function. Spontaneous pastpointings of a single arm seems to be a valuable symptom of lateral lobe lesion, but a few cases of marked disease of the single cerebellar lobe have been autopsied and the history of the case seemed to be devoid of characteristic responses for these and other tests. Unfortunately, we get not a few cases too late to carry out all of these tests.

Was particularly interested in what turned out to be a recurrence of multiple sclerosis, but which had all the ear-marks of a cerebellar tumor, except the headache and choked disc. The caloric test gave a nystagmus of approximately the normal duration, but the vomiting excited was too annoying a factor to be overlooked. There was a spontaneous pastpointing to the left with the left hand only, associated with weakness of the whole left side and adiadococinesis. Knee-jerks were exaggerated, especially on the left side, falling was always to the right, and somewhat to the rear, and was

uninfluenced by changing the position of the head. He held his head to one side and the thorax was also bent, suggesting the cerebellar head tilting. We were not able to turn or do more of the caloric tests.

While the Barany Tests may be of great assistance in cerebellar cases, we should not overlook the value of the signs of asynergy, nor fail to analyze the gait or falling or other difficulty in walking or standing.

In connection with nystagmus, would like to call to your attention a very pithy remark: "Ocular nystagmus is oscillatory but may become rhythmical on looking in an extreme direction." This is credited to Dr. Mackenzie and is the first true concise description which came to my notice. It has been too frequently stated that all ocular nystagmus is oscillatory, but I have seen a number in the eye clinic during the past year, in small children, with defective vision and no evidence of nervous trouble otherwise. Quite a few of these cases have been observed for some time, and others which had been noted prior to reading this, have continued under observation, and I feel that the observation is a careful one and confirms the statement quoted above.

In conclusion, may I say that I think the Barany Tests should be used more than they are. Especially is this true of chronic ears of whatever kind and cases of vertigo. There are a number of cases of the neurasthenic type which have much vertigo. There are quite a number of cases of vertigo due to toxemia in which overuse of tobacco is a prominent factor, and in whom marked effects on the internal ear can be demonstrated. Seemingly, with cases in which the internal ear is affected in a non-suppurative process, whether it be toxaemic or a part of that peculiar condition known as oto-sclerosis, there is a marked systemic change. Instability on quick motion, poor memory, irritability, tremor which may even affect the handwriting, and a very marked asthenia, are all symptoms which may go with loss of hearing and more or less vertigo. A very low blood pressure is not an infrequent factor, but these tests carried out with judgment are a great aid. It should be the interest of all aurists and oculists to test more patients and bring down to a settled basis just the extent of usefulness and value of various results.

450 Ninth Street.

DISCUSSION.

Harold L. Babcock, Boston, Mass.: The original object of Barany's work was solely the examination of the semi-circular canals or static labyrinths themselves, and, therefore, was of value to the otologist only. For determining the integrity of these end-organs they are of unquestionable and very definite value.

With the newer conception of the vesticular apparatus as including the semi-circular canals and their tracts to the cortex and return, came a new field of usefulness for the Barany methods of examination, and thereby claimed the interest of the neurologist and ophthalmologist. It is quite evident that if the vertigo and nystagmus tracts can be definitely demonstrated, a complete analysis of the reactions following stimulation of the various canals may have great value as an aid in localizing intracranial lesions, notably those involving the brain-stem which have caused a block in one or more pathways. Jones and his colleagues at the University of Pennsylvania have done much investigation in this direction, and I became very enthusiastic while working with him at the definite results obtained, in spite of the fact that these tracts as yet have been demonstrated only from a clinical and not an anatomical standpoint.

The two chief reasons why the Barany tests have not been more generally helpful are: (1) That physicians have expected more definite information from them than should reasonably be claimed; and (2) that the somewhat difficult and exacting technique of examination is so varied by different examiners that the findings are not uniform. The difficulty of establishing exact standards has been impressed upon me in performing the Barany examinations of over 3,000 applicants for the aviation service at the Boston Examining Unit during the past year. This is due to the fact that none of the reactions are purely reflex and, therefore, they are more or less under the control of the patient. In the nystagmus arcs the quick component tract is cerebral, and in the vertigo pointing and falling tracts voluntary action is necessary to complete the reactions. Therefore, the entire set of reactions should be accomplished and carefully studied as well as the type of patient in hand before the importance of any one particular finding is considered. Border-line reactions on turning should always be checked up with the caloric tests.

I wish to urge a more extensive and a more intelligent use of these methods of examination in obscure aural and nerve cases, for I believe no otological or neurological examination is complete without them.

A CASE OF CARCINOMA OF THE TONSIL TREATED BY OPERATION AND RADIUM.

George B. Rice, M. D.

Boston, Mass.

Read before the Southern Homœopathic Medical Association (O., O. & L. Section), Nov. 18, 1920.

PRIMARY carcinoma of the tonsil is comparatively rare. For this reason the case which came under the writer's observation was of more than ordinary interest, in that it was evidently a primary tonsil involvement, and had invaded the surrounding structures, the faucial pillars, and the base of the tongue, to only a limited extent. The patient had been treated for some four or five months by several physicians who evidently did not recognize the seriousness of the condition, when he finally came under the observation of Dr. F. A. Davis, of Boston, who, noting the unusual features of the case, was kind enough to send him to the writer on May 7, 1920.

Mr. H., age 62, a postman by occupation, stated that he first noted a sense of fulness in the left side of the throat and an increase in saliva about four months previously, with occasional pain on swallowing. His general health was fairly good, for he was able to do the somewhat arduous work of delivering mail without unusual difficulty. He stated that he had suffered a slight shock eight years ago, but had made a complete recovery from this, so far as he was able to judge. Venereal history was denied.

Examination of the upper air-tract was as follows: The nasal septum was deflected to the left, but not sufficiently to cause marked obstruction to respiration. The nasopharynx was normal. Between the faucial pillars on the left side was a lobulated mass, showing areas of ulceration, confined to the tonsil, excepting that the superior portion of the anterior faucial pillar was indurated, and there was a small spot of ulceration at the junction of this pillar and the tongue. The lymphatic glands of the neck were not involved, and the other portions of the pharynx and larynx were normal in appearance. Palpation disclosed a firm, immovable mass, fairly

well circumscribed, and rather painful to touch. Malignant disease was thought probable; a tertiary syphilitic gumma possible. To clear up this latter surmise, a Wassermann examination was made by Dr. Charles Eaton, who in two days returned a negative report. Owing to the fact that the disease was apparently well localized it was decided to remove the mass and the surrounding tissues involved, by surgical means, under local anesthesia, and at once follow this by applications of radium. This method seemed to the writer to offer the greatest hope of cure should the condition prove to be malignant.

On May 14th, at the Reid Hospital, the diseased tissue was removed under novocaine anesthesia. The bleeding points were controlled by the application of small metal clips, and the patient was put to bed, having lost very little blood, and experiencing no severe pain from the operation.

May 15th Dr. Eaton made the following report from an examination of the tissues:

"On section, the tissue showed very little normal tonsil. There were several bands of connective tissue stroma enclosing irregular groups of large round cells. Few blood vessels. Mitoses present. Diagnosis: Carcinoma."

May 15th the clips were removed, the tissues about the site of operation showing much redness and swelling. May 17th and 18th showed marked improvement. May 20th the patient left the hospital and came to the writer's office, where a small area of roughness and thickening at the base of the tongue was treated by the galvano-cautery.

May 22nd, under the direction of Dr. Wesley T. Lee and my assistant, Dr. W. W. Walker, at the Massachusetts Homœopathic Hospital, twenty-five milligrams of radium was applied for two hours; May 23rd, three hours; May 24th, five hours; May 26th, five hours, and May 27th, three hours. The patient left the hospital on the 27th, and was not seen again until June 3rd. On this date the reaction from the radium was marked: Redness, swelling and induration of the lymphatics of the neck very pronounced. He now consulted Dr. Lee at his office, who gave him five minutes X-ray treatment with a soft tube six inches distant. This was repeated June 10th, 18th and 25th; also July 2nd and 9th.

June 10th the patient was again seen by the writer; the throat

now showed decided improvement. There had been considerable sloughing, but the tissues were healing well and the glandular swelling less. June 18th the improvement continues. July 3rd: The throat has healed well, with the exception of a small spot at the junction of the tongue and faucial pillar. This area seemed nodular, and the lymphatics of the neck were still somewhat indurated. July 9th: The spot on the tongue was still in evidence but on the whole better than at the last visit. July 19th, after consultation with Dr. Lee it was thought wise to make external applications of radium. Dr. Lee on that day applied 50 mgs.; screening .5 mm. silver, 1 mm. brass, and 5 mm. gauze, at a distance of 1 cm. for three hours, at a point below the angle of the jaw, and at the anterior border of the sternocleido-mastoid muscle. July 22nd this dosage was repeated.

July 30th: The whole condition has changed greatly for the better. There is now only a small fissure at the side of the tongue and the glandular induration has practically gone. Aug. 13th: The throat looks well, although the fissure on the tongue is still in evidence. Aug. 15th, Mr. H. suddenly lost consciousness for a few minutes, and when he recovered the left hand was numb. Aug. 18th: Sensation has returned, but the patient feels weak and walks with difficulty. Aug. 25th: Much better, and tongue is better. Sept. 16th: Continued general and local improvement. Oct. 7th: The throat and tongue are free from inflammation, and there is no glandular induration. Mr. H. says his throat and tongue feel normal. Nov. 14th: The throat and tongue are free from signs of recurrence.

The writer does not for a moment claim that this patient is cured, but the results at this time have been so satisfactory that it seems reasonable to believe that a permanent recovery may result.

As has been stated in the beginning of the paper, carcinoma of the tonsil is rare, but the diagnosis of malignancy presents no difficulties. Benign neoplasms of the tonsils are unusual. Syphilitic gumma may be considered, as in this case, but the more rapid destruction of tissue in ulcerative gumma would be a distinguishing feature.

In carcinoma pain is one of the early symptoms, while the pain from sarcoma is not an early disgnostic sign. Operative treatment in these cases has been very unsatisfactory. The combined oper-

ation and the use of radium seem, however, to offer our best hope of permanent cure.

The writer wishes to express his indebtedness to Dr. F. A. Davis, Dr. W. W. Walker, Dr. Wesley T. Lee, and Dr. C. A. Eaton, for their kind interest and co-operation.

Since writing this paper and before it goes to press the writer wishes to state that he saw Mr. H. on February 2, 1921, when a careful examination showed a perfectly healthy throat. March 11th he reported indirectly that his throat was perfectly normal so far as he could judge.

Reaction of the Optic Nerve in Meningitis.—*Annales de Medicine, Paris,* 1920; Abs. *Jour. A. M. A.,* Oct. 23, 1920.—In this article F. Terrien emphasizes the fact that the optic nerve is actually an expansion of the brain, protected by the same coverings and laved by the same fluid, and what affects the meninges elsewhere generally affects simultaneously the meninges surrounding the optic nerve. Lumbar puncture relieving the meninges elsewhere relieves also the optic nerve, and anti-meningococcus serum aids in combating the perineuritis. Epidemic meningitis does not seem to entail the grave ocular complications of former years since these measures have been made the routine practice. Syphilitic retrobulbar neuritis and perineuritis also yield to modern treatment. A single lumbar puncture in treatment of post-meningitic visual disturbance has improved vision from 1/6 to 2/3, and cured auditory post-meningitis lesions. Choked disk is an entirely different matter. This should be sought with special care in incipient tabes; he reiterates that *hyperhémie papillaire* is the warning signal.

H. L. G., Jr.

The Editor suggests that the readers of the Journal when making a purchase of supplies—all other things being equal—patronize the supply-houses that advertise in our Journal.

TWO UNUSUAL EYE CASES.

LeRoy Thompson, M.D.,

Chicago, Ill.

Read at the Annual Meeting of the O., O. & L. Society, Cleveland, O., June, 1920.

IN presenting the following two cases before this Society it is with some hesitancy that I classify them as being unusual, because what may be extraordinary in one surgeon's practice will be more or less common in some other physician's experience. However, I will state the facts as they exist and leave judgment to be passed by you as fellow-members. It is my belief that a medical paper, to be of any value whatsoever, must be backed up by clinical, pathological, bacteriological, chemical and other substantiating data, and wherever possible statistical conclusions arrived at. Much is written and published in textbooks and reprints which will not stand up under scientific inquiry, and it is my personal opinion that a report of actual cases gives us more incentive and help than the "textbook thesis."

In presenting the first case it is not in the spirit of criticism, so far as the surgeons are concerned who handled the case previous to its getting into my hands, but merely to show what can result from an error in judgment, and proof of the same by end results.

The second case is an additional report to the one already presented by me in 1917 concerning foreign body penetration of the eyeball; and while one case does not prove or disprove any theory, yet it tends to bear out what I believe is the proper method of handling these serious cases.

Case I.—Miss A. S.; date, October 5, 1918; age, 21 years; occupation, office work; race, white; single.

History.—Normal baby. Mumps, age 8 years. Chicken-pox when 12 years of age. One doctor thought she had small-pox. No trouble with the eyes. Until sixteen years of age went to school, and, while eyes were a little weak, did not have to wear glasses nor lose any time on account of them. When she was about seventeen years old, she noticed that the left eyelid began to droop, followed by the sensation of a foreign body in the eye.

Small amount of pus discharge present. Consulted Doctors M. and E., who made a diagnosis of trachoma. Was under continuous treatment for one year, which included squeezing out of the granulations on the conjunctival surface of the upper lid by means of Knapp's roller forceps. Did not get much relief at any time from pain and photophobia. On July 8, 1914, she consulted Dr. T. G. A., who put her in the hospital and grafted a piece of integument (taken from the upper arm near the deltoid muscle) to the conjunctival surface, upper lid of the left eye over the tarsal cartilage. Suffered excruciating agony, which made the use of cocain solution almost a habit (she could not sleep unless cocain solution was used). Took treatments at the doctor's office once a day for a year. Did not open the eye for three months. Became discouraged and consulted Dr. V. B., who did a lid operation for ptosis, in September. 1915. This was successful, and she could keep her eye open. Went to work for the Chicago Telephone Company five years ago in March. Consulted Dr. S. two years ago who gave her no encouragement. Dr. E. E. treated the case at infrequent intervals up to the present time; treatment was to pull out the hairs which had grown out of the skin-graft. She is very much discouraged and says that she must get relief or it will affect her mind. Tonsils and adenoids removed five years ago.

Findings.—Vision, O. D. 20/20.
O. S. 5/100.

Glasses Worn—

O. D.+0.25 Sph.=-0.75 Cyl. Axis 15 deg.
O. S.+1.00 Sph.=-3.00 Cyl. Axis 90 deg.

Refraction. Homatropin cycloplegic. Given the following Rx:

Rx: O. S.+4.00 Sph.=-1.50 Cyl. Axis 180 deg. Vision, 20/20
O. D. +1.00 Cyl. Axis 15 deg. Vision, 20/20

External examination of eyelids shows normal function in the right eye. Left upper lid slightly retarded in movement of opening and closing; slight drooping. Very faint scar extending across entire lid at the upper tarsal fold where operation had been performed. On everting the lid found a red, granulating surface-irritation with four hairs growing out of the skin-graft, which was gray in color. Lower lid showed slight conjunctival irritation with some discharge collected at the internal canthus. Conjunctiva of

right eye was normal. Cornea of right eye normal; left eye some irritation of the corneal scleral margin from the wiping of the hairy surface over it continuously. Pupils react to light and accommodation.

Throat.—Tonsil fossae clean; teeth in good condition.

Nose.—Septal deflection to the left with markedly impaired breathing space on that side. Middle turbinal in pressure contact with septum. Breathing space good through right nostril.

Diagnosis.—Keratitis, due to skin-graft on upper lid, left eye.

Prognosis.—Possible relief if skin-graft is removed.

Pre-Operative Treatment.—Boric acid eye lotion. Liquid petrolatum. Hot boric fomentations and what hairs could be seen were removed with tweezers.

Operation.—Put in St. Luke's Hospital and operated upon November 11, 1918. General anesthetic (ether).

Technique.—Everted upper left eyelid and dissected skin-graft from its attachment, using cataract-knife and scissors. There was slight bleeding, which soon stopped on application of pressure. Specimen sent to laboratory for examination. One per cent. sterile atropin sulphate instilled. Sterile vaseline smeared over the lids and protective dressing applied.

Laboratory Report.—Description; Histology: Sections show connective tissue and a hair in cross-section. G. R. B. Dick, St. Luke's Hospital.

Post-Operative Treatment.—Eye flushed out daily with warm boric solution. No pain, and irritation entirely gone. Patient decided she would like to have her nose operated on while she was in the hospital; so did a septal resection and partial middle turbinectomy—both sides. Uneventful recovery. Allowed to leave hospital on November 18, 1918. Continued under observation and treatment to January 27, 1919, when I discharged her in good condition.

July 2, 1919, reports that she has absolutely no pain or photophobia. Thinks her glasses need changing. Refracted on July 3rd and given the following prescription:

Rx: O. D. +1.50 Cyl. Axis 150 deg. Vision, 20/20.
O. S. +3.00 Sph.: +1.00 Cyl. Axis 120 deg. Vision, 20/25.

Conclusions.—Gifford, of Omaha, reported in the *American Journal of Ophthalmology,* January, 1892—Lip membrane graft for

relief of entropion. Noisewski before 1892 had employed lip-graft for the cure of trachoma successfully, but I could not find any record of *skin* graft being used in kindred operations. It seemed illogical to me to have skin placed where mucous membrane had to functionate, and especially integument taken from a hairy part of the body.

Case II.—Mr. H. B.; December 20, 1919; age, 35 years; occupation, automobile mechanic; white; married.

History.—December 20, 1919. At 9.25 A. M. today, while holding an iron crow-bar which was being forced into the frozen ground by a sledge-hammer in the hands of an assistant, was struck in the right eye by a piece of metal dislodged from the burred end of the hammer, which caused intense, excruciating pain and immediate dimness of vision. Given first aid treatment by a local doctor who immediately consulted with the general surgeon of the Chicago Telephone Company, who in turn communicated with me. Patient was placed in St. Luke's Hospital, arriving there 11.30 A. M. X-ray pictures of eye made before patient was placed in bed or dressing disturbed in any way.

Findings.—On arriving at the hospital found patient's eye lightly bandaged and covered by a piece of sterile gauze; no other medication or eye-lotion having been used.

Vision, O. D. Can count fingers.
O. S. Normal so far as I was able to determine without test-card apparatus.

X-ray pictures showed a foreign body in size approximately 3 mm. in the short diameter and 6 mm. viewed anteriorly and posteriorly. Sweet's Localization Method not used as it was quite apparent that immediate operation was necessary.

Examination of the eye itself showed a cut parallel to the corneal scleral margin in the lower inner quadrant which apparently perforated the iris, ciliary body and the lens. Anterior chamber partially filled with blood. Pupillary reflex entirely gone; tension three minus; (digital method.)

Diagnosis.—Foreign body in globe.

Operation.—Patient prepared for operation in the usual manner, that is, having eyebrow scrubbed clean (green soap); cilia trimmed and a wet bi-chloride dressing 1-10,000, applied. *No irrigation of the conjunctival sac allowed.* Five per cent. cocain ap-

plied, followed by Adrenalin-chloride. Haab magnet fitted with curved tip—the end of which was approximately two millimeters smaller than the length of the cut used. Point was inserted through the wound about two millimeters and the current turned on. Patient complained of sudden pain, and this was accompanied by a convulsive disturbance of the lens and iris, which led me to believe that the foreign body was lifted from its bed and pulled through the vitreous, striking the posterior capsule of the lens. On withdrawing the tip the foreign body was not sticking to it. Again inserted the end of the magnet—this time pushing it well through the wound about five millimeters into the vitreous, and on closing the switch felt the metallic click of the two metals coming together. By manipulation and twisting was able to work the short axis of the foreign body into the long axis of the wound and successfully withdraw the segment of metal. This was followed by two droplets of vitreous and the ragged edge of the cut iris. Replaced same with spatula. Applied White's Ointment with 1 per cent. of atropine and closed both eyes by means of light dressing bandage.

The prognosis of the case at this time, in my opinion, was very bad, judging from past experiences, and the representative of the corporation as well as the family were told that the eye would probably be lost. Kept patient in bed, giving five grains urotropin every four hours; mild catharsis; light diet; dressing changed every day. Much to my surprise marked improvement began after forty-eight hours had elapsed; pain being very much less and conjunctival injection beginning to subside. On the 21st, the day following the operation, the left eye was left uncovered. The external medicaments used in this case were dionin, atropin, argyrol (20 per cent. Sol.), and hot applications. Was allowed to leave the hospital January 26, 1920, and to resume his occupation at the end of February. At that time the anterior chamber had re-formed; pupil had reacted to light and accommodation; lens opaque (cataractous); pupil elongated, due to some adhesions in the region of the wound.

Tension (with McLean Tonometer) O. D. 12 mm.
O. S. 30 mm.

Vision, O. D. Perception of light only.
O. S. 20/20 and .37 type at 10 inches.

Conclusions.—It is my opinion that the pre-operative care

given in this case was responsible for the saving of the eye; no unnecessary manipulation was done; no disturbing germ-carrying irrigations used. Very prompt operation (within three hours following accident) and the good fortune to be able to extract the metal through the original wound all helped to bring the case to the final issue recorded above.

In the six cases I reported in 1917 in which all the eyes were lost, I believe that too much pre-operative manipulation, irrigation, treatment, etc., was done.

This man is still under my care and observation and at a later date expect to do a cataract extraction.

30 North Michigan Blvd.

The Combined Operative and Radium Treatment of Malignant Disease of the Nasal Accessory Sinuses.—In discussing this important condition Harry A. Barnes, in the *Laryngoscope,* October, 1920, reaches the conclusion that operative treatment is the most important, giving to radium the role of an aid to be used following operation, but never to supplant it. He further advocates, "Thorough operation combined with immediate radiation through a wide opening in the face, which for purposes of observation is allowed to remain permanently."

Eight cases are reported, six carcinomas, one small round-celled sarcoma and one fibro-sarcoma. Of eight cases, 50 per cent. are without recurrence up to the date of the report, June 3, 1920.

W. G. S., Jr.

Ophthalmology in 1920.—F. Terrien, *Paris Medical,* Sept. 4, 1920; Abs. *Jour. A. M. A.,* Nov. 13, 1920.—The importance of microscopy of the living eye, and research on the pathologic anatomy and pathogenesis of detachment of the retina is emphasized by the author. Morax reported two cases of secondary glaucoma following detachment of the retina, in two young persons, and for which syphilis was probably responsible. The author induced in rabbits a gonococcus opthalmia, and then attenuated the process and cured it by injection of 0.3 cc. of antigonococcus serum into the anterior chamber twenty-four hours after the inoculation.

H. L. G., Jr.

THE CARE OF THE EYES OF THE AGED.

HENRY L. GOWENS, JR., M.D.

Philadelphia, Pa.

Presented at the Annual Meeting of the O., O. & L. Society, Cleveland, O., June, 1920.

THE purpose of this communication is to make a plea for the prophylactic care of the eyes of those removed from large centers. Of the 60,000 blind in the United States, according to the 1910 census report, there were 30,000 for whom special returns were made, of whom among the "Causes indefinitely or inaccurately reported," 2.2 per cent. were given as "old age," and more than 50 per cent. of these had gainful occupations at the time blindness occurred. What would have been the results as to blindness credited to old age had special returns been made for the 60,000? What will be the result in the special returns for 1920? Who will help to lower these figures to be credited to old age in the 1930 census report? Will *you* help? It is for this purpose that I make this plea.

An analysis of this group of blind shows clearly a very interesting list of facts, as follows:

1. The number in this group, 666, is very low.

2. There is an equal distribution according to the different sections of the United States.

3. There are as many females as males.

4. There are as many in any one type of peoples as in any other type, eliminating any racial cause.

5. None of these cases showed that blindness was due to consanguinity.

6. None of these cases gave histories of blindness in their family.

7. More than 50 per cent. of them had gainful employment before blindness.

8. The occupations of the large majority were those requiring either living or working in the country or small rural centers. They were farmers, planters, market-gardeners, florists, fruit grow-

ers, stock-raisers, agricultural laborers, carpenters, and others living or employed otherwise in country districts.

The number in this group is very low, because only half of the returns for the 60,000 blind in the United States were made. We do not know whether this number would have been doubled or not had special returns been made for the entire number of blind; neither do we know whether the number in the special returns for the second 30,000 would have been larger or smaller than 666; but we are justified in believing that the low number, 666, would have been increased to a smaller or larger extent were it not for the inability to obtain data.

The equal distribution suggests the evenness of spirit, the prevalence of sameness of habits and the general unconcernedness, except on the part of a *very few,* to correct fundamentally things which are in error.

Proper care should be taught the female as well as the male. There is as much necessity for correct hygiene of the eye in one sex as there is in the other sex.

That in none of these cases was blindness due to consanguinity indicates that otherwise these individuals were living normal lives free from deformities. Where disease is least prevalent there may be found very set opinions against any measure to retard physiological changes which may incapacitate one.

There need be no history of blindness in the family for rural folks, in some instances, to accept as inevitable any change in their eyes. It is the custom notwithstanding the enlightenment due to rural free delivery. Only community centers may change this attitude, augmented by recent graduate physicians, should the ophthalmological courses improve in medical colleges, and by the community centers alone if ophthalmology is eventually eliminated in undergraduate medical schools—as is being advocated by some—unless all rural practitioners at such a period of medical education secure their opthalmological training as post-graduate work.

Those having gainful employment before blindness might have become public charges. We do not even know whether there is thrift in the country districts. It is sufficient to say, however, that some degree of dependence might have been prevented by proper care.

The occupations of these individuals are those of vast im-

portance to their communities. They deserve the same opportunity for health as individuals in large centers.

The most startling conclusion to be drawn by any one from the above data, given so clearly and systematically by the United States Census for 1910, seems to me to be that the greatest contributing cause for this group of blind is the gross lack of care. We cannot presume any pathological or etiological factor as to the cause of blindness in this group for the reason that in a measure their histories rule that out, and because of the group of questions used to interrogate them or someone for them. Making any deductions for conditions unknown to themselves, the fact that they were able to pursue gainful employment eliminates any gross condition suddenly appearing or some gross diminished state of vision during life. However, the very fact that they stated the "indefinite and inacurate" cause as "blindness due to old age" proves beyond any doubt that there is work for us to do to prevent undue blindness, and especially so where it seems to occur mainly from the lack of care due to the lack of enlightenment.

37 South Sixteenth Street.

DISCUSSION.

Wm. M. Muncy, Providence, R. I.: Dr. Gowens' paper is a righteous plea for better care of the 2.2 per cent. blind in our rural communities. These have been unscientifically classified "old age" as to cause, simply due to the fact that no other physical defect was noted to account for their pitiful condition. Judging from my experience I would be equally unscientific if I should say that probably 75 per cent. had senile cataracts in various stages of development, and that retinal hemorrhages and other signs of circulatory disturbances would account for the remainder.

The average country physician knows enough about such conditions or their probable results not only to advise but to aid in seeing to it that such patient seeks the proper care. The greatest obstacle, it seems to me, is the fact that the patient is so apt to take his failing eye-sight so much as a matter of course that no attention is brought to the rural physician that there is a visual defect. If an operative procedure is the only method of restoring sight, as in the case of cataracts, more than the persuasion of the physician is often necessary to obtain the patient's consent.

The great plea is for an early recognition of visual errors, not only in the rural but also in the urban communities. To that end there is about to be launched an extensive campaign of self-instruction. A Council of Eye-sight Conservation is being formed with an advisory board having representatives from the United States Public Health Service, the American Medical Association, Efficiency Engineering Association, Illuminating Engineers, etc. Their duty is to formulate some plan by which the public may be educated as to their visual defects. A considerable amount of funds have been collected already for this endeavor and much more is forthcoming. The various optical manufacturers' associations are furnishing the funds if the council will see to it that the money is properly handled, and that in all ways the method of bringing it before the public is ethical. It is planned to make use of the newspapers and periodicals in the same manner as the advertisers, but in such a way that only the best interest of the ones afflicted is considered.

There may be some such scheme as a self-testing card with directions inserted in the literature as, for example, these cards which I now distribute. Such a scheme, if there was not allowed to appear any advertisement allied to optics for a number of issues, would, I feel, do considerable good, and certainly no harm

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Vestibule Phenomena with Ocular Paralysis.—G. V. T. Borries, *Hospitals.*, Copenhagen, July 14, 1920; Abs. *Jour. A. M. A.*, Oct. 23, 1920.—A case is described in which, with complete paralysis of the voluntary movements of the eyeball toward the left, the mystagmus elicited by way of the vestibule was absolutely normal both to right and left. The author discusses the literature on the subject, saying that his case seems to belong to the subcortical group of ocular paralyses according to Barany's classifications.

H. L. G., Jr.

Origin of Sporadic Congenital Deafness.—J. K. Love, *Jour. of Larynol., Rhinol. and Otol,* London, September, 1920; Abs. *Jour. A. M. A.*, Oct. 23, 1920.—The author maintains that sporadic cases of deafness are not only clinically but genetically identical with hereditary cases; that sporadic congenital deafness is hereditary, and that such heredity is Mendelian.

H. L. G., Jr.

TONSILLECTOMY.

C. S. Grabin, M.D.

Spencer, Iowa.

I AM not going to enter into any lengthy discussion regarding tonsillectomy, as the most of us who specialize have our own technique of operative procedure. My paper is simply a plea for more careful preservation of the pillars and soft palate, as it has been my experience upon examining throats of patients who have had tonsil operations to find now and then one or both pillars removed, and in a number of cases the soft palate has been buttonholed. There are numerous methods in use, all of which, if properly mastered will give good results in the hands of a careful operator. When a student in the eye, ear and throat clinic of Chicago, I had the pleasure of seeing some of our best operators work; I very carefully took note of their methods and technique, and while it is almost impossible, and perhaps not essential, to familiarize ourselves with too many ways of operating, one may by selecting the methods and good points of a large number of skilled operators become, after several years of application and experience, a good throat surgeon. We have heard it said that time, patience and perseverance accomplishes all things. Very true, indeed, so with the surgeon; so let us try out the methods of the great men and then select from those the technique that best suits our fancy and the one that gives the best results, and, most of all, the method you can best handle in the operating room. After which stick to it. This is the way I started to do several years ago and I have never had reason to regret the time spent in the various clinics which laid the foundation for my future work. I have never tried out the Sluder method. I believe it is an all right procedure if you are thoroughly skilled and familiar with this way of operating, but I do not think it is a method to be just taken up without any instruction as to how to do it.

I was very fortunate a few years ago to visit the clinic of Professor Corwin, of Chicago, as clever a man as you would care to meet, and who explains everything to his students thoroughly. I must confess he is a past-master with the Sluder instrument.

I do the snare operation exclusively. In doing the operation under novocain I use Watson's or Tyding's forceps, and when working under general anesthesia I use Stein's forceps, which were demonstrated to me in his clinic. You can slip your snare over the forceps without releasing your grasp from the tonsil. I think the secret of operating successfully is based on proper dissection. Todd, of Minneapolis, does not dissect the posterior pillar.

I use the following method: First, seize the tonsil completely, so it will not tear out, and carefully draw it out of its bed, but not sufficiently to obliterate the outline of the anterior pillar; always keep the anterior pillar in view. Now with your dissector, carefully and thoroughly free the anterior pillar and any adhesion present in the supra-tonsillar space. Do not dissect the posterior pillar—leave it alone. Now draw the tonsil out of its bed as far as you can. This maneuver will bring it away from the anterior pillar and supra-tonsillar space and swing the posterior pillar to the back of the tonsil. Now apply your snare carefully, hugging the tonsil closely, maintaining enough force with the forceps to keep the tonsil from dropping back into its fossa. Now close your snare and you will find the tonsil completely enucleated, the wire having freed the posterior pillar completely, leaving a clear fossa and both pillars unharmed. This is the method I use and the results are all one could wish. Very little hemorrhage results as the pillars are unharmed, and the snare removes the tonsil from the constrictor muscle without injury to the venous plexus in this region.

VACCINE TREATMENT OF OTITIS.—I. Fernandez Seco, *Siglo Médico*, Madrid, July 24, 1920; Abs. *Jour. A. M. A., Nov.* 6, 1920. —Autogenous vaccines were used by the author in three cases in children and one case in an adult in which he reports that an acute or long rebellious otitis media yielded to these injections. The staphylococcus was responsible in one child of four and the Friedländer pneumobacillus in one of eight. In a girl of two and a woman of twenty-seven a polyvalent vaccine was used, comprising staphylococci, pseudodiphtheria bacilli and the pyocyaneus. The suppuration rapidly declined and the cure was complete in all in from twenty days to a little over two months. In a fifth case a minor operation on the ear was needed but was refused, and the vaccine was unable to overcome this handicap, so that no benefit was derived. H. L. G., Jr.

The Local Diagnostic Value of the Tuning Fork Tests, is the title of an interesting paper by Dr. A. Retjo, of Budapest, Hungary, published in the *Laryngoscope,* July, 1920.

The author begins by stating that all the functional tests of the ear, including those of the tuning fork, have a double purpose: (1) To fix the grade, and (2) the locality of the disease. He takes exception to the present idea of physiology of air and bone conduction, and thinks that since there are such differing opinions, many of which are erroneous, the attempt should first be made to reconcile these differences. This phase of the subject he considered in a study, *"Zur Physiologie der Knochenleitung,"* presented at the Congress of the Deutsche Otologische Gesellschaft at Kiel in 1914.

I. *Air Conduction.*—After attacking the problem of air conduction from all angles, Dr. Retjo concludes that "Whereas for the perception of the lower tones the whole apparatus is necessary, for the perception of the higher tones it is quite enough if the two windows are working."

II. *Bone Conduction.*—There are two commonly accepted ways for the perception of bone conduction:

(*a*) The pure bone conduction (Rein ossale Leitung).

(*b*) The craniotympanale or osteostapediale route.

These the author discards, and since he believes that "the end organ of the cochlea has only one stimulus, and that is the wave-like motion induced in the labyrinth fluid," then in the case of bone conduction there must also rise the same wave-like perilymph motion, which is directed towards both the round and the oval window. The functioning of the round window is all that is required for bone conduction. If neither window remains elastic there is neither stimulus nor perception.

After examining into the reasons for the shortening of the higher or lower tones in cases of air conduction, he concludes that:

(*a*) If the drum and ossicles are less mobile then the transformation of the lower tones will be wrong, and the hearing of them will be impaired, but the ability to hear higher tones will remain good since they are perceived directly through the elastic part of the oval window. In such a case the bone conduction is lengthened (middle ear diseases and post-catarrhal adhesions).

(*b*) When the elastic ligament (ligamentum annulare) is diseased, then the short and more frequent vibrations of the higher

tones can be perceived only with difficulty; hence, the hearing of them is shortened. If the transforming apparatus is in good condition then the rigid ligament will be moved by the strengthened vibrations of the lower tones; therefore, these will be heard relatively better than the higher tones. Since the round window functions well, the bone conduction is normal.

In disease of the round window the perception of higher tones will always be weaker. Bone conduction will also be shortened. In explaining the reason for the shortening of bone conduction (Schwabach's Test) the writer thinks we are only justified in accepting the shortening of bone conduction as due to diseases of the nerve if the integrity of the round window or second drum can be guaranteed.

As to why air conduction is normally better than bone conduction (Rinné plus) and what the reverse signifies (Rinné minus) Dr. Retjo explains in the following manner: "In the case of bone conduction two wave-like motions arise in the labyrinth fluid. The first is directed towards the round window. The direction of these motions in the scales being opposite they weaken each other. This causes loss of energy.

"The vibrations of the tuning fork, which have arrived to the fluid through the bone conduction, almost without any loss of energy, have become weaker than the air-conducted vibrations which induce through the footplate only one wave-like motion in the fluid. According to my theory, when the second wave-like motion of the fluid is diminished, or is absent—and that is the case when the footplate is less mobile or even rigid—there is no hindrance to the first wave-like motion and all the energy is spent on the single wave-like motion toward the round window. That which strengthens the bone conduction weakens the air conduction and so the normal relation is inverted. Rinné negative."

Lateralization of the bone conduction (Weber's experiment) is occasioned by any condition that produces an inequality of the bone conduction, and will lateralize to the ear with the better bone conduction. Where the foot-plate is less mobile and the round window intact, lateralization will take place towards the affected ear; but where the bone conduction of the affected ear is shortened then the bone conduction of the unaffected ear becomes

comparatively longer and the localization will be to the unaffected ear.

This does not always signify disease of the perceiving apparatus, but may be produced by disease of the round window.

Dr. Retjo deserves great praise for bringing conditions of the oval window into deserved prominence. Let us hope that others will be stimulated to investigate this problem from many different angles, in order that in the near future one need no longer say, "The diseases of the round window is a neglected chapter of otology."

William G. Shemeley, Jr., M.D.

The Function of the Protein in the Lacrimal Secretion.—After citing some very interesting data on lacrimation, resulting in part from his own investigations, the author offers as an explanation of the fact that in conjunctivitis xerotica the patients are unable to weep because the "cornea is no longer a permeable membrane." This concept of lacrimation he also considers a "very satisfying explanation of glaucoma. Excised glaucomatous eyes have an aqueous that is sufficiently albuminous to coagulate readily in the air (Fuchs). The presence of the albumin in the aqueous largely destroys the function of the film on the cornea, and leaves only venous channels to supply drainage. Not only that, but with its hydrophilic propensity re-enforced in the presence of salt it rapidly absorbs water, increasing the contents of the globe."—C. F. Charlton, *Amer. Jour. Ophthal.*, November, 1920.

W. G. S., Jr.

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Editorial

SUCCESS IN MEDICINE.

SUCCESS is a more or less flexible term, according to the way one views it. One fellow measures it by the dollars and cents that may be accumulated from the practice of medicine after a definite period of intensive work; another measures it by the knowledge that may be accumulated in a given time; still another by the recognition that may be won for oneself in his community.

These are, generally speaking, selfish but not necessarily improper incentives. Few, indeed, are stimulated to success by that highest of motives—unselfishness in the service of mankind regardless of what he is to receive in return. The young man who measures success solely from the monetary standard does not remain long in the practice of medicine. He soon quits it for one of the commercial pursuits where the opportunities for success are better. On the other hand, every physician must succeed financially in the practice of medicine in order to succeed otherwise, or else devote himself to institutional work where he can be looked after by some one else and left free to do research work.

The young man who measures success by the fund of knowledge he is able to accumulate about his subject in a given time is a worthy fellow indeed. His aspiration is attainable, providing he works hard enough for it. It means work and more of it. Fortunately his gradually accumulating success brings to him a pleasure that refreshes and stimulates him for greater effort, and once he is on the way there is but one thing that can stop him, and that is failing health.

It has been observed that the most powerful mental workers have usually been found to be physically weak or are sufferers from physical ennui. The more they live in the mental sphere the more completely separated they become from the physical.

The young man who measures success by the recognition or station he may be able to win for himself usually gets there, if he craves it strongly enough—by some hook or crook. He is prone to be governed by the rule that pull gets one farther than push. If desire for position is his sole aim he is liable to quit medicine early to take up politics.

It rarely if ever happens that a young man in the practice of medicine dreams of success from one of the above-mentioned standards exclusively. His idea of success is usually that of a blending of all three, but one of them predominates over the other two. Even the fellow who aspires most for position aspires in a measure for the other two, if for no other reason than to lend support to his primary purpose.

The young man who measures success solely by the highest of motives, namely service to mankind, regardless of what he may receive in return may exist, but is hard to find. And yet every physician at one time or another, has exhibited a leaning in this direction. In fact, we hear of physicians now and then not only treating a poor patient free of charge, but actually donating money along with the prescription.

It not infrequently happens that one's idea of success undergoes a change from time to time; in other words, the meaning of the word grows as he advances in age and experience. Take the average young man fresh from college and ask him to define success as it applies to the practice of medicine, and the probability is that the answer would be somewhat vague. It is just as liable as not to be that his first aim is to earn a sufficient amount of money to pay off his obligation to some relative or close friend who had loaned him money to help him get through college; furthermore, he wants to do it as quickly as possible. Not until then is he in shape to think of the meaning of success. His success in clearing himself of debt may prompt him to have faith in himself that he can succeed well financially. Later on with its accomplishment he may be so carried away with this idea of making money as to be ruined as to the possibility of his attaining success measured by any other standard. From the business standpoint he has made a success, from the medical standpoint he may have been a failure. Cases of this kind are few for the reason previously cited, that individuals of this type usually find their way into commercial fields. This

case is cited more for the purpose of illustrating the fact that in the earlier stages of medical practice the force of circumstances prompts the average young man to measure success not entirely but predominately from the monetary standard. In other words, he has to live. Later on, somewhere about the age of thirty years, if he is inclined to give thought to the meaning of the word, his aspirations reach higher; he desires increased knowledge. The desire may be so strong as to amount to a real yearning. He looks at his bank account and other assets and then at his dream of future success measured by a new standard. He lies awake at night, considers, and then reconsiders and weighs in the balance success as viewed from its larger meaning on the one hand, and the price of it measured in money and time that must be spent on the other hand, to make the first step in his new venture. If he talks it over with an intimate friend, who is seldom able to advise well, he may be dissuaded from making the move. The friend recalls to him how well he has succeeded financially where he is at present located and how he is respected by the community. If the physician is made of the right stuff he answers, "Yes, what you say is all true, but if I have succeeded once I can succeed a second time and better than the first," and accordingly makes the move.

Later in life. after succeeding in the larger sphere, his faith in himself grows and with it his aspiration. Success has been assured but the price had to be paid. His physical strength is not what it used to be, but then what of that? Has he not enjoyed a mental pleasure that does not come to the purely physical worker? He has surrendered more or less of his physical existence to his mental.

Still later in life his ideas of success grow to recognize that higher form referred to before which was so foreign to him in the beginning of his career. Very few ever reach this stage, for the reason that the moment one makes a pronounced success in one of the other directions the enjoyment for that particular success becomes so great that then and there he ceases to aspire higher. Success has a different meaning for everyone, and a different meaning to each of us at different stages of life. It is attainable in proportion to the effort exerted and the tenacity with which one holds on to his purpose. G. W. M.

ANNUAL MEETING OF THE O., O. & L. SOCIETY.

THE O., O. & L. Society will hold its Annual Convention at Washington, June 20th, 21st and 22nd. Headquarters, Fairfax Room, New Willard Hotel. Do not forget the place and time. Make reservations early in anticipation of the largest attendance in the history of the Society.

REPORTS OF BUREAU CHAIRMEN.

BUREAU OF ECONOMICS.

"The Need of Economic Education in the Medical Profession."—Burton Haseltine, Chicago.

Discussion opened by Gilbert Palen, Philadelphia.

Synopsis: Dr. Haseltine will point out the many defects under which physicians labor because of the lack of coherent opinion and systematic teaching regarding the economic phase of medical practice. He will recommend systematic instruction upon these subjects by making it a part of under-graduate curriculi and will make constructive suggestions as to how these could be made valuable.

"Medical Service as a Commodity in the Industrial World."—Frank Wieland, Chicago.

Discussion opened by Martin Z. Westervelt, New Haven, Conn.

Synopsis: Dr. Wieland will show the economic loss suffered in the industrial world because of physical defects of employes. He will report upon the work of one large corporation in which this loss has been recognized and in which physical defects are regularly corrected as a business investment. He will describe in detail the work of the Medical Department of Montgomery Ward & Company, which, under his direction, has done more than any other large concern in the world to solve the medico-economical problem.

"Practical Results of Business Education Among Physicians."—Alvin W. LaForge, Chicago.

Discussion opened by Seymour B. Moon, Pittsburgh.

Synopsis: Dr. LaForge will report upon results already apparent from the discussion of the economic question among phy-

sicians. He will make constructive suggestions as to how sound business principles can be applied in the work of the individual doctor.

BURTON HASELTINE, M.D., *Chairman.*

EAR.

"Some Experiences in the Treatment of Otitis Media."—D. A. MacLachlan, M.D.

Discussed by Neil Bentley, M.D.

"A Mastoid Case With Interesting Complications."—T. W. Stephens, M.D.

Discussed by W. C. Cook, M.D.

"Cerebral Abscess,"—R. C. Cooper, M.D.

Discussed by Charles A. Ley, M.D.

"Report of Additional Cases of Neurolabyrinthitis."—W. G. Shemeley, Jr., M.D.

Discussed by Dudley Williams, M. D.

"A Case of Lateral Sinus Thrombosis."—George J. Alexander, M.D.

Discussed by Dean Myers, M.D.

"Undergraduate Teaching in Otology."—Gilbert J. Palen, M.D.

Discussed by J. V. F. Clay, M.D.

"The Mercurials in Aural Practice."—H. P. Bellows, M.D.

Discussed by George W. McDowell, M.D.

"The New Conception of Labyrinth Physiology."—Frank Novak, M.D.

Discussed by George W. Mackenzie, M.D.

Synopsis: Dr. Novak will review the accepted ideas as to labyrinth function and labyrinth tests. He will then discuss the investigations of Professor Coleman R. Griffith, of the University of Illinois, which seem to cast some doubt on the accuracy of the Barany teachings. He will advance an original theory of labyrinth function which he believes to some extent reconciles these antagonistic theories.

The essayist will supplement this discussion with a report of his clinical study of labyrinth cases in Cook County Hospital, Chi-

cago, and will present pathological specimens showing lesions which have been diagnosed ante-mortem by means of labyrinth tests.

L. E. HETRICK, *Chairman.*

NOSE AND THROAT.

Additional Titles:

"Carcinoma of the Ethmoid."—Ralph W. Hulett, M.D.

"Hemostasis in Tonsillectomy."—R. C. Eckardt, M.D.

ALVA SOWERS, *Chairman.*

AMERICAN MEDICAL EDITORS' ASSOCIATION.

THE Fifty-Second Annual Meeting of the American Medical Editors' Association will be held at the Hotel Lenox, Boston, Mass., on Monday and Tuesday, June 6th and 7th, under the Presidency of Dr. H. S. Baketel, Editor of the Medical Times.

A novel feature of our literary program will be introduced this year in the shape of a symposia, which will be discussed by various members. The subjects will be:

"Group Practice and the Diagnostic Clinic."

"What Should be the Attitude of the Profession Toward Health Centers."

"The Correlation Between Editorial, Advertising and Subscription Work."

Every doctor, even remotely interested in medical journalism, will find it to his advantage to attend, and is most cordially invited.

CORRECTION.

The title of Dr. Walter M. Yost's paper has been corrected to read, "An Interesting Case of Retinitis Albuminurica Complicating Pregnancy."

PERSPECTIVE—ITS RELATION TO PERFECT VISION.

George A. Shepard, M.D.,

New York, N. Y.

As physicians not only must we combat disease and correct physical deformities, but also we must try to reduce friction in the processes of life and promote advanced development. In order to properly appreciate our full responsibility we must have ever before us a picture of the ideal healthy organism.

A normal child comes into the world with the potentialities of the adult functions, but as yet undeveloped. A *normal* environment gives a well-balanced appeal to the infantile cell-life and brings about properly co-ordinated functional growth, but because of our varying viewpoints, what constitutes *normal* environment can probably never be satisfactorily settled. Parents with one-sided development inevitably tend to surround the child with a biased environment, which is followed by its logical result, perpetuation of ancestral faults. Children born in Europe since 1914 have been unable, in many cases, to obtain proper food; as a result of this condition, in those who have survived, the digestive processes show great variation from the normal, which will require careful nursing to correct. Girls show early in life a color intelligence far surpassing that of boys, simply because of their constant application to the determination of colors and not because of a better basic color sense. Allow me for sake of argument to state the following premise: that normal environment for a child presents no external or internal obstacle to the proper development of the God-given functions of mind or body which cannot be overcome by physical, mental, or temperamental strength.

In explanation of the last clause of the preceding sentence, I will cite the following case: Last fall an old patient, after a lapse of several years called upon me with this story: "As you know, since birth I have been afflicted with vision so poor that it is almost impossible for me to recognize a person with whom I am talking, and my work must be held within four or five inches of my eyes. When I graduated from Harvard my professor in chem-

istry gave me a letter saying that he considered me the best-prepared man who had ever left his class. Now I receive a salary of over $40,000 from a company of my own creation, and am also heavily interested in other companies. Now, knowing that there must be other boys with a similar handicap of poor vision, some of whom may fall under your notice, I would like any such sent to me in order that I may give them a chance." I congratulated him upon his success and also upon the thought for the other fellow. But, I said, do you realize that not only did your parents give you poor vision, but also a good intellect, physical strength, and indomitable pluck and energy? Without these latter qualities you would have been unable to surmount the obstacle of poor vision.

The foregoing remarks may not seem germane to the subject-title, but when we consider the report of the physical director in one of our large public school systems that over 50 per cent. of the children showed defective perspective, we ought not fail to realize that there *is* a cause for this under-development of an important part of one of our special senses.

What is perfect vision?

1. Ability to see the seventh line on the Jaeger Test Chart at 20 feet, while the accommodation is at rest.

2. Ability to hold these two ocular images, as recorded upon their respective cortical centers, superimposed one upon the other, without muscular stress.

3. Dressing this composite image in its psychic garb, called perspective.

4. Recording the distance of the object as found by our range-finder; this instrument of triangulation being formed by the pupillary distance and the two base-angles made by the visual lines which point at the object. If the above results are *not* attained the vision is defective. If they can *only* be attained through the expenditure of undue effort, nerve-exhaustion ensues. It is commonly accepted that great benefit is derived from the wearing of glasses which correct refractive faults. Many at this time practice the correction of muscular imbalance by operation, wearing of correcting prisms, and prism exercise. But how many feel that it is at least as necessary to guide children toward accuracy of binocular single vision as accuracy in figures? The child who finds it impossible to fuse automatically the two ocular images has difficulty

to concentrate the mind upon the work at hand because so much nerve force is wasted in trying to control these images. If all children in the sixth grade were examined with stereoscopic pictures, and when found below normal given some training, much trouble in later life would be avoided.

An infant has vision with both eyes, but the two images are recorded as separate units and the child sees double. The ball on the tray is seen double, and when the hand grasps it and it is held up in front of the child's face to be gazed at, cross-eyed, the child looks back to see the other ball, only to find none. Finally experience teaches that when two balls are seen there is really only one ball. Thus dawns the state of binocular single vision upon which is based triangulation and perspective. Until this is fully established, at about the sixth year, the child is clumsy and unable to bear long continued concentration. In the early days of kindergarten instruction, in this country, children of four years of age were asked to stick pins into holes to form simple designs. Owing to undeveloped perspective sense this employment proved too great a tax upon the nervous system of many children, and the methods of Fröbel fell under a cloud from which it took many years to emerge. The multitudinous activities of childhood stimulate the functional growth until more or less perfect co-ordination takes place and it passes under the control of the subconscious sphere, just as takes place in learning to walk.

The chief direct causes of defective development of perspective are (1) over-convergence (esophoria or cross-eye); (2) divergence of the eyeballs or lack of convergence at the near point (exophoria), and (3) vertical deviation, or hyperphoria. Contributing causes are physical weakness and tempermental laziness. Cross-eye may be due to congenital shortening of the internal recti or, as is usually the case, to hypermetropia or far sight; which, if uncorrected, calls for an abnormal effort of accommodation—which in its turn compels the convergence to overactivity. As the two visual images fall on their corresponding cortical areas *only* when the visual lines point to the object, double vision results. In order to avoid double vision one of the images is suppressed more or less completely and the effort to establish a range-finder is abandoned. This happy (or unhappy) result is accomplished the *more* easily if the vision of one eye is poorer than

that of the other, or if the child's strength is not great or if there is temperamental laziness. Although a one-eyed person can make an estimate of a distance or perspective by a study of shadows, if sufficient time is allowed for the act, it can never be so consistently accurate as when binocular single vision exists, and it is much more costly in nerve force. Necessarily, the activities of the child are restricted to those which do not call for instantaneous estimate of distance and perspective. The boy who plays ball is dubbed a muffer or a poor batter; he fails to excel in those games which require perspective judgment; he cannot drive a nail straight or enjoy that game which in my boyhood was called "following the leader." When he climbs over a house, under construction, he is in greater danger of accident through miscalculation of distance; hence he is afraid to venture. A girl finds great difficulty in sewing or doing certain kinds of fancy-work, playing tennis, studying birds, looking through opera glasses, etc. Thus following the line of least resistance certain activities are eliminated because of their great nerve-cost or because of mediocrity of accomplishment.

If we find a muscular fault which makes fusion of the two visual images difficult, with a low fusion ideal or an impaired sense of perspective, shall we leave well enough alone or try to enlarge the patient's appreciation of the visual world? A well-known publisher who has done much to develop in this country a higher ideal of architecture, house-furnishing, landscape gardening and art, has said that he asks the people what they want and then gives them something better than they ask for. His experience had taught him that the average human being has a subconscious desire for advancement which surpasses the conscious desire, and that this desire must be satisfied or his publication would soon fall into the discard.

I well remember the case of the headmaster of one of our large private schools who came to me complaining of anomalous symptoms of eyestrain. He was thirty-five years old, a Harvard graduate, in the full flush of strength and capability. Examination showed a very low degree of perspective ability. He put up a very stern defense against acknowledgment of his defect, and when at last he had to admit it he said, "It has never made any difference to me even if I have poor perspective power." I questioned him as to his athletic life, asking if there was nothing which

required instantaneous perspective that caused him any trouble, and he admitted that it exhausted him to umpire a game of ball. Upon being asked if it was not logical that a person who knew the rules of baseball and was impressed with the need of making proper decisions should severely tax his nervous system if he did not have good perspective power, he admitted that it seemed plausible and agreed to undertake stereoscopic exercises. After a month of exercise he came one day saying, "I am covered with shame; now for the first time in my life, when I look out of the window the landscape stretches out into the distance instead of being a flat picture." He revelled in a richness of vision of which he had formerly been ignorant and, of course, could not have asked me to give to him.

Another case was that of a boy about to enter college, who was told that he had poor perspective and advised to undertake its development. He could not see the reason for undertaking treatment. After graduation he came to me saying that he was going into his father's woolen mill to learn the business. I told him he probably would have to tend loom and pick up and tie the broken threads and that he was not equipped to do it easily. He now appreciated the situation and wanted to take the exercises. He told me later that he was put on a night shift and had to watch several thousand threads. He said he lived in hell for two weeks until he had developed his perspective.

Treatment consists in correction of the muscular and refractive faults which have been the cause of the defective condition, and stimulation of the fusion and perspective ideals by stereoscopic exercises and word pictures. As all advancement is founded upon an acknowledgment of previous error, the patient must be sufficiently intelligent to accept argument with an open mind and, therefore, cases must be selected with judgment or results will be disappointing. Children only need to have removed the material obstacles to the attainment of perspective, while adults have, in addition, the faulty habits of thought and action which are formed by the presence of this defect. Therefore, simple methods of exercise with the stereoscope and prisms, at home or in school, will be all that is required for children. Adults must be studied individually so as to discover the primary cause, and then given exercises which will create a fusion ideal upon which can

be built a perspective image. The method by which this is accomplished must vary according to the case, and, of course, cannot be presented in a paper of this sort.

What I have tried to demonstrate is that the perfect working image for many of our activities is really the psychic impression founded upon the composite optical images. That it is our duty to correct refractive faults, as nearly as possible, then make possible the fusion of these two images by the correction of any existing muscular defects, and upon this foundation to build a three-dimension structure, which is ideal vision.

Outcome with Exophthalmic Goiter.—B. Schiass, *Policlinico,* Rome, Aug.-Sept., 1920; Abs. *Jour. A. M. A.,* Oct. 23, 1920.—In this article the author reviews the ultimate outcome in three cases treated by sympathectomy at the Bologna Policlinic, with recovery of only one; in six treated by ligation of the thyroid arteries with recovery of only 50 per cent., and of 28 treated by thyroidectomy with complete and permanent recovery in 100 per cent. He adds that from 35 to 40 per cent. have died of those treated by medical measures alone during the last fifteen years. In a few of these roentgen ray treatment was tried after failure of other non-operative measures, but few showed any benefit, and one patient complained of aggravation. Various forms of organo-therapy proved disappointing also. He styles the exophthalmic goiter patient a *tetanico-psychico-morale,* and insists on long preparation for thyroidectomy, keeping the patient isolated and in bed for eight or ten weeks at least. In several cases he has witnessed that the tipping over of a chair or the breaking of a tumbler brought back the tachycardia. Just before the operation he has the patient drink freely or gives fluid by proctoclysis. H. L. G., Jr.

BLINDNESS AS A SYMPTOM OF OBSCURE ETHMOID DISEASE.

DEAN W. MYERS, M.D.,

Ann Arbor, Mich.

Presented at the Annual Meeting of the O., O. & L. Society, Cleveland, Ohio, June, 1920.

MUCH has been written upon the question of ethmoid disease and its relation to other conditions. To it has been assigned a prominent place in the list of focal infections. It is found to be guilty so often that even the tonsil and the teeth are having to give way to it in relative importance. The relationship between ethmoid disease and disturbance of vision has been recognized for many years. Rhemer in his very excellent discussion of the subject calls attention to the fact that many authors believe that in all cases of obscure blindness the ethmoid or sphenoidal cells will be found to be the foci of infection in at least 40 per cent. of the cases. There are, however, very few cases on record, at least that I have been able to find, in which the vision has been restored to normal after the condition had gone far enough to produce an actual choking of the disc following the incipient optic neuritis. I have found several cases reported in which the *inflammatory* symptoms have subsided following attention to the ethmoid region, but usually leaving the patient with an atrophy of the optic nerve and virtually useless vision.

It has been for this reason that I have felt inclined to report one or two cases which have come under my observation recently. Both have apparently been direct results of ethmoidal infection and both have been cases in which the ethmoid disease was decidedly obscure, manifesting itself only by slight nasal symptoms and showing dimly in very careful X-ray examinations of the cells. Even then there was some doubt as to the advisability of operating, since the amount of disturbance indicated by the X-ray was so obscure that it could not be positively asserted that the origin of the disease rested in the ethmoid regions. The important feature of both cases, in the mind of the writer, is that early operation was resorted to, thus preventing the cases from running on until perm-

anent damage had been done to the optic nerve and retina. Dr. Onodi, in his very excellent work upon the subject, reports the case of an old lady who had optic neuritis with choked discs, and in whom a definite ethmoiditis was observed. On account of the advanced age of the patient it seemed advisable to those in consultation not to operate, and she subsequently developed a complete atrophy of the optic nerve with total blindness. Dr. Haseltine recited to me recently a case that had come under his observation in which the optic neuritis had subsided following an ethmoid operation, but in which the case was left with a complete atrophy of the optic nerve and total blindness. In both of these cases vision might have been saved had the patients either consulted a rhinologist earlier and submitted to operation at once, or had the surgeon in the first case decided to operate in the incipiency of the disease. Of course, I recognize these statements as being more or less speculative; nevertheless I am inclined to believe that none of us will deny the statement that favorable results are more likely to follow early operation in such cases. Therefore, it is not because one or two swallows can make a summer that I make this report, but that the fact may be known that early operation has at least in these two cases apparently reduced the inflammatory conditions of the optic nerve and retina with complete restoration of vision.

The first patient, Mr. G. M. O., age 21, consulted me on January 30, 1920. He came with something like the following history: About a week before he had been taken with a peculiar sensation in the left eye, which he described as an inability to turn it from the right to the left or from the left to the right. This was followed very shortly by a disturbance of vision. He reported that there had been a rapid loss of sight from that time to the day of consultation, probably a week or ten days all told. He had had no headache or dizziness and aside from the failure of vision was entirely comfortable.

It was found upon taking his visual acuity that there was a decrease in vision in each eye, greater, however, in the left than in the right. The vision of the right was at this time—20/50ths and in the left—20/80ths; manifest refraction improved the vision in the right eye to nearly —20/20ths by the addition of a +.50 spherical lens combined with a +.50 cylinder axis 120. In the left

eye vision was very slightly improved with a +.75 sphere combined with a +.25 cylinder axis 90, the record showing this lens producing—20/80ths. Fundi: O. D., disc seemed slightly pale. O. S., optic neuritis; veins engorged; choked disc. Glasses were supplied and he was sent to the laboratory for Wassermann, urinalysis, tubercular tests, etc., all of which proved negative.

Nasal examination revealed some hypertrophy of the middle turbinates with a small amount of discharge from the ethmoid region in both sides. There was also a slight deviation of the septum on the right with a bony ridge upon the left and lower down. X-ray examination of the sinuses showed necrosis of the ethmoidal bony tissue. The throat was negative. He was advised that an operation should be performed on his nose in the hope of relieving some of the possible irritating causes. The matter of operation was taken under advisement by the patient and in the meantime he was given nux vomica, 3x, and told to report once in a few days for observation. He was also advised to give up his school work, so that any strain upon the eyes might be reduced to a minimum.

February 4th he consented to operation. The septum was resected and curettement of the ethmoids, preserving the middle turbinates, was performed. The openings into the sphenoid cells were also enlarged but no pathology was found. In the ethmoidal regions there was found considerable granular tissue with much softening of the bone and necrosis. There was a very small amount of pus present, the discharge being more muco-purulent in nature. Following the operation upon the nose attention was given practically daily until the 22nd of February, when healing was virtually complete.

February 9th a test of his vision revealed the fact that he could read two letters of the 20/50ths line with his left eye without glasses. The disc also at this time seemed to be less congested with the individual vessels more distinct. On February 12th, three days later, he could read all of the 20/30ths line and one letter of the 20/20ths; the disc was only slightly congested at this time, the edema having almost entirely subsided. On February 28th the vision with each eye was 20/20ths without the aid of glasses. The disc had now returned almost to normal in appearance and the patient considered himself absolutely well.

A letter from him very recently reports that he is in the west, planning to work in the open during the summer season, and that he is feeling splendidly with apparently perfectly normal eyes.

The second case which I wish to report is that of Mrs. T., age 31, who began to have a sensation of something before her eyes about two years ago. This began in the left eye, and after an attack of influenza increased rapidly with a decided tendency to watering of the eyes after using them. Last August she went to an oculist, who said her eye trouble came from general conditions and gave her some glasses simply to rest them, so he said. In December she was examined by another physician who obtained a two plus Wassermann reaction upon the first blood-test taken. She was given potassium iodid and mercury, also salvarsan treatments at intervals of from one to two weeks until March 11th. She has one child seven years old who is entirely normal. Wassermann upon the husband's blood returned negative. Her mother and two uncles upon the paternal side had the same trouble, according to the patient, all ultimately becoming blind. She was given her first salvarsan treatment on January 5, 1920, the next on January 22nd, and it is an interesting fact that following this injection the right eye began to fail, having been normal up to this time.

There seems to have been some trouble in the administration of the salvarsan by the local physician on January 22nd, resulting in extravasation of the salvarsan solution into the tissues about the vein. It will be noted that it was from the time of this treatment that the vision in the right eye began to fail. Other salvarsan injections were given on February 13th, 21st, 29th and March 11th, and following the injection of March 11th, which was given in the right arm, the vision in the right eye failed very rapidly. The patient stated that there had been disturbance of vision in that eye following each other salvarsan injection. Later the vision in the right eye seemed to decrease rapidly after the last injection, which also resulted in extravasation of salvarsan into the tissues surrounding the vein, and at the time of consultation the arm was considerably swollen and the elbow-joint more or less stiffened from this swelling.

Upon April 2nd, having had no salvarsan since March 11th, she consulted the writer and the following conditions were ob-

served: In the right eye there was an area covering the macular region slightly paler in color than the rest of the surrounding retina. About the border of this spot were slight hemorrhagic patches. There was no pigment and the sclera did not in any place show through. Perimetric examination revealed a very decided narrowing of the field and central scotoma. Aside from the appearance of the macula the fundus seemed normal, with possibly some congestion of the optic disc. In the left eye there was a large, more or less pigmented patch of choroiditis covering the entire macular region, and the process had gone on to such an extent that the sclera could be seen through in many places. A large bloodvessel entered from below and disappeared in the center of this patch. The perimetric chart showed in this eye also a great narrowing of the field, with a very large central scotoma. The margins of both discs were decidedly fuzzy, the left being less distinct than the right.

Patient was at once sent to the sanitarium where consultation was had with a syphilologist, who reported an absolutely negative Wassermann from both blood and spinal fluid. His report stated that in his opinion the condition had never been syphilitic, for the spinal fluid had not been disturbed up to this time, and salvarsan treatments had in no way affected relief of the symptoms. In all probability the first Wassermann was an error and should not have been considered without further examination of the blood, and certainly not without examination of the spinal fluid.

Examination of the nose revealed somewhat enlarged middle turbinates with a very large amount of discharge from the ethmoid region. There was also considerable thickening of the septum high up, which seemed to prevent drainage. The tonsils were found to be submerged and contained chronic infective material. X-ray examination of the sinuses revealed a slight amount of necrosis in the ethmoid regions. Patient was advised to have her tonsils removed and the correcting work done in the nose, with free opening of the ethmoid cells.

On April 5th the tonsils were removed under local anesthesia, and upon April 12th the ethmoid regions were curetted, saving the middle turbinated bones, opening freely both into the anterior and posterior cells. Considerable necrotic granular material was found, with a very small amount of pus.

Vision.—Before the operation, *i. e.*, upon the first day of consultation, the patient could hardly count fingers dimly with the right eye, at a distance of five feet. With the left eye she could count fingers but not so well as with the right.

There was an uneventful recovery from the throat and nose operations, and the patient returned home on April 19th. On May 4th she returned for consultation, with the report that her vision was improving rapidly in the right eye. She was very much delighted and upon examination we found that she could read 20/50ths with the unaided right eye, and a few letters in the 20/30ths line dimly. Examination of the retina revealed the same spot present in the macular region that had been there in the first place, although it seemed to be less distinct. The paleness was less marked, the hemorrhagic spots gone, and the central scotoma nearly cleared. The balance of the fundus seemed to be entirely normal. The condition of the left eye remained the same as before the operation. The patient was given hepar sulphur 12x, at the time of her return home and has been taking it ever since.

These reports have been gotten together hurriedly, and, of course, only a short time has elapsed following the surgical interference in each case, but it seems to me they serve sufficiently to illustrate the fact that a very careful examination of the ethmoid region, together with a consideration of chronic tonsillar infection, is most important in obscure eye-affections, and also to illustrate the importance of early operative procedure where any disturbances are found in these areas. Certainly the experiences of those who have to treat optic neuritis will recall to their minds the difficulties encountered in attempting to bring about happy resolution with restoration of vision in all cases of optic neuritis, and if there can be any relationship between disease of the ethmoidal cells or tonsils and optic neuritis, certainly it should be recognized and remedied at an early date.

Discussion.

Neil Bentley, Detroit, Mich.: Dr. Myers is to be congratulated upon having presented a most interesting topic and to be very highly commended upon the happy outcome in two cases that undoubtedly would have gone on to complete blindness had he not interfered surgically.

The author calls attention to a most interesting condition, one which is now being cleared up, but which has been all too little considered in the past. This age in medicine will perhaps be known more as the focal infection age than perhaps for any other one feature. We are seeking foci of pus as the explanation of numerous conditions that were not even dreamed of as being of an infectious nature, even a few years ago. Were this work being done entirely by nose and throat men we might think they were over-enthusiastic, but when you consider that the ethmoid, the tonsils, and the teeth have been condemned more by general surgeons, internists and pediatricians than by nose and throat specialists, one must feel that there is a real damage being done by these foci of infection. When men like the late Murphy attribute a large percentage of joint infections to diseased teeth, tonsils, sinuses, etc., and when men like Cabot attribute a large percentage of cases of endocarditis with its train of symptoms to the same foci, we must give them attention.

Dr. Myers is to be congratulated upon the fortunate outcome of his two cases. I recall distinctly one case somewhat similar to his which I saw a year or more ago. It was the most rapid case of ocular degeneration from a nasal infection that I have ever met in my own practice. So far as I could get the history of the man he had practically no symptoms a week prior to his visit to me. His eyes had been examined for the draft and pronounced O. K., and he claims were of equal acuity. When I first saw him I found practically a panopthalmitis. There was marked iridocyclitis, the pupil being bound down by adhesions, the media and cornea were cloudy, prohibiting any view of the fundus. Vision was reduced to light perception. The Wassermann and tuberculin tests were negative. An X-ray for foreign body in the eye was also negative.

An X-ray of the nasal sinuses demonstrated that there was a distinct clouding of the ethmoidal cells. Nasal inspection had demonstrated a hypertrophy of the right middle turbinate with some polyps projecting from under it. We operated the patient the following day and found extensive necrosis of the anterior and posterior ethmoidal cells, and quite a little distinct pus in the posterior ethmoidal cells.

The eye made a very prompt recovery. You all know that an eye such as I have described takes considerable time, often

several weeks, to clear up. This eye was practically free of inflammation within a very few days, showing very distinctly I think that the ocular condition resulted directly from the pus in the posterior ethmoidal cells. Vision, however, did not return.

Amblyopia was at one time quite a commonly accepted diagnosis, but today we recognize that amblyopia is largely a confession of ignorance. Certain it is that cases like those Dr. Myers has mentioned would have passed into the realm of the amblyopic a few years ago, whereas they are nothing but the end-results of nasal infections. It behooves us then in any obscure eye-condition to make a very thorough examination of the nose, including complete raying, both front and lateral views being required. A confrére of mine, himself an eye and ear specialist, mentioned a very interesting case to me which I cannot take the time to repeat in all its details. This woman was gradually going blind. She had consulted a large number of the outstanding men in this country, including such men as DeSchweinitz, Fox, Weeks, several in Chicago, and many in other cities in our country. These men did not all agree upon her eye-condition, but many of them diagnosed the condition as being glaucoma. The woman was on her way to see Fuchs, in Vienna, when she fell in the hands of a well-known Chicago nose and throat specialist. He diagnosed a double ethmoid with polyps, and operated the case with complete restoration of vision. The really fine part of this story is the fact that he charged and collected a fee of $5,000 for doing the operation. The patient's husband, however, was a man of wealth and they were perfectly satisfied with the results and the fee as well.

In the second case, in addition to the eye-condition there is another rather interesting feature. The patient had a 2 plus Wassermann. Too much importance cannot be given to the fact that in making Wassermann tests only the 3x and 4x can be considered as positive evidence of syphilis. The 1x and 2x are of significance in known cases of syphilis where they call for more thorough treatment. They are not, however, diagnostic of the presence of lues. The spinal fluid should also be tested as, of course, was done by Dr. Myers.

The second case showed a very large central scotoma. According to many authorities the earliest symptom of involvement of optic nerves from sinus diseases is frequently a central scotoma.

This is, of course, due to the fact that the papillo-macular bundle is the first portion of the optic nerve affected. It seems rather strange, perhaps, that this bundle, which is in the centre of the nerve, should be affected before the peripheral portions. This is explained by saying that the papillo-macular bundles are more vulnerable than the other tissues of the eye, being more highly specialized, and suffer injury before the other portions of the nerve. Not infrequently we see cases of retrobulbar neuritis from sinus infections. In the earlier stages of this condition the ophthalmoscope shows either a normal fundus or changes that are very slight and not at all characteristic. Atrophy of the optic nerve is unfortunately the first ophthalmoscopic sign that we have many times of the presence of a retrobulbar neuritis.

The pupil may be a little dilated and there may be some distension of the retinal veins. Some cases show an ischaemia, however. There is a dull pain in the eye aggravated by pushing the eyeball back into the orbit. The more definite symptom is a central scotoma. The first colors to disappear are red and green and this may be the first indication of the approaching trouble. Of course, other types of inflammation may result in an eye from infection of the nasal sinuses, retino-choroiditis and optic neuritis being not uncommon. Iritis is now well-known to be almost if not fully as commonly due to focal infections as to syphilis.

We must bear in mind that the sphenoid may lie in very close apposition to the optic nerve. Zuckerkandl long ago pointed out that there are great varieties in the shape, position and thickness of the superior wall of the sphenoid. Dehiscences have been reported by this distinguished anatomist, as well as others, the sinus mucosa being in direct contact with the dura. The posterior ethmoidal cells may extend out into the wings of the sphenoid and thus bring them into very direct contact with the optic nerve. Anatomically, then, there is a very close connection between the optic nerve, the sphenoid and the posterior ethmoidal cells.

Again allow me to compliment Dr. Myers upon calling our attention to a very timely topic.

William M. Muncy, Providence, R. I.: Dr. Myers' two interesting papers further emphasize the fact that optic neuritis is very frequently due to a disease of the ethmoid cells. It has fre-

quently been noted that this condition of the ethmoids is apparently so trivial that both the X-ray picture and the findings on examination of the nose prove negative. Vail, from the experiences of three cases, advises operation of the ethmoids even if the nasal symptoms are absent.

Others report a simple hyperplasia of the tissues being all that could be accounted for as the causal factor, as exemplified in the restoration of vision after operation. Certainly a unilateral neuritis would be strongly indicative of a nasal complication if it ran a fluctuating course. If nasal shrinking with cocain and treatment seemed to produce a beneficial effect, and especially if the scotomata were always worse mornings and the vision improved after the patient had been about, these conditions would justify operative procedure even if the other findings were negative.

Pituitary Tumor.—E. Behse, *Finska Läkar Hand.*, Helsingfors, July-Aug., 1920; Abs. *Jour. A. M. A.*, Nov. 6, 1920.—The history of a case of the above disease in a cabinetmaker of 47 years is given. It had entailed acromegaly and temporal hemianopsia. He compares the case with others on record and emphasizes the great improvement realized under pituitary treatment, three to ten tablets a day. The excessive thirst abated, as did also the somnolency, profuse sweating and glycosuria, the sugar dropping to 2.5 per cent. The man was able to return to work and vision improved to nearly normal in one eye, and to the counting of fingers at three meters in the other eye. H. L. G., Jr.

SINUS SURGERY AS APPLIED TO THE EYES AND GENERAL HEALTH, AND LANTERN SLIDES SHOWING SOME PICTURES OF ORIGINAL SINUS AND OTHER WORK ALONG THESE LINES.

Read at the Annual Meeting of the O., O. & L. Society, Cleveland, Ohio, June, 1920.

J. Ivimey Dowling, M.D., F.A.C.S.

Albany, N. Y.

It is not likely that the full significance of the accessory nasal sinuses is comprehended even by specialists, but their importance to conditions of health and disease is gradually being spread through the efforts of many who are specially interested in their study.

Onodi, in his work on "The Accessory Sinuses of the Nose in Children," has demonstrated very satisfactorily the existence of the maxillary and ethmoid cavities at birth, which rapidly develop from then on to the adult age.

The sphenoid cavity is a matter of later development, and is exceedingly small even to the third year, according to Zuckerkandl, at which time it reaches the size of a pea. Markel believes the first appearance of the sphenoidal sinus is about the seventh year. Mikalkovics states that the first rudiments of the sphenoid sinus is seen in the third month, but it is not until the sixth or seventh year that the body of the sphenoid forms the wall of the cavity. The above statements are taken from Onodi's work, and indicate that the time of its full development is not positively known.

Onodi speaks of the sphenoid sinus being present in the new-born infant, at which time it will vary in height from 1 to 6 mm., length 1 to 5 mm., and width 1 to 6 mm. During the eighth year he states that the sinuses may be between 8 and 12 mm. in height, 12 to 13 mm. in length and width 11 mm. The frontal sinuses are also stated to be present about the sixth or seventh year, when they are the size of a pea, *although Killian is reported to have opened up a diseased frontal sinus in a child of one year and three months of age.*

Concerning frontal sinuses, Warren B. Davis, in his publication, *"Development and Anatomy of the Nasal Accessory Sinuses in Man,"* has proved beyond cavil that the frontal sinuses may be present in size at an early age. For broad generalization and clinical purposes it may be considered that any of the sinuses which are present before the age of five years are rarely of operative size, even though involved in a disease process. *Until that age they may generally be considered as numerous pouches draining into the nose.* This being so is a sufficient explanation for the failure of many tonsillotomies and adenotomies; in that, even after a well-performed operation, persistent catarrhal conditions may be exhibited and infections be present that menace health. These conditions may be overcome by the daily irrigation of the nose, and should not be considered in the light of operative cases. They make up a broad class in themselves.

A factor in advanced youth or in adults which should be remembered is that every sinus has its natural ostium considerably above the floor of the cavity during certain positions of the body. For instance, the frontal sinus and ethmoid cells drain when the head is in erect position, but when recumbent the frontal sinus fails to drain because the ostia are considerably above the most dependent portion of the cavity; and this is true also of the anterior and posterior groups of ethmoid cells. The maxillary sinuses, of course, can only drain through the natural ostia when the head is turned to one side, and it must be remembered in this instance that only one sinus can drain at a time. This complication is sufficient explanation for the intumescent rhinitis which patients so frequently complain of during the night hours. The sphenoid sinuses also drain through the ostia considerably above the floor, and so can only drain through these openings when the head is thrown forward. These points are statements concerning the sinuses in a state of disease, when the natural secretions have assumed the nature of pus.

During the state of health these cavities secrete mucus which aids in humidifying the respired air. The sinuses are kept clear through the negative air-pressure induced by the proper blowing of the nose.

Any condition which occasions obstruction to the nares will render likely the infection of any one or all of the cavities, with

resultant empyemas. *Therefore, in determining the proper treatment or surgery for intranasal conditions there are two sine qua nons; namely, to establish proper ventilation and to promote natural drainage.* No intranasal surgery is correct unless it provides for these two essentials.

In considering the accessory nasal sinuses it is well to remember that through the lacrimal apparatus the face of the eyeball is directly accessory to the nose, for the lacrimal canals empty beneath the anterior portion of the inferior turbinates.

The middle-ear and accessory mastoid cells should also be considered accessory cavities, for through the eustachian tubes a direct path is established for possible infection. During an experience of many years in an operative service of considerable size, I have observed that mastoid disease is many times associated with obstruction of the inferior nasal meatus of the same side; and in a very fair proportion of cases complicated by a maxillary empyema or simple infection of the same side. Appreciating this fact mastoid surgery should often be correlated with some surgery upon the maxillary sinuses or intra-nasal parts.

The importance of the spheno-palatine ganglion is now well-recognized, largely through the writings of Sluder, and a full understanding of its relations to the nose is essential if the patient is to receive the fullest benefit of treatment for neuralgia, headaches, or ocular diseases.

This ganglion is located adjacent to the outer nasal wall, posterior to the middle turbinate, at which point it may be injected, according to findings of Sluder. It is composed of motor, sensory, and sympathetic fibers, the latter being derived through the vidian in communication with the cartotid plexus.

In my special experience concerning glaucoma I have been much impressed with the possibilities of ill-health through irritation of this ganglion nerve-mass.

Again I wish to emphasize, by re-statement, my belief concerning the possible relation of the nose to glaucoma.

"My researches into the mysteries of glaucoma lead me to the belief that Knies was correct in his statement that there may be a specific glaucoma poison, and I believe that this is the true explanation not alone of congestive glaucoma but also of glaucoma simplex. Observation upon a series of cases tends to favor the

reasonableness of the retention thereof, and the entire train of symptoms may be explained in this wise:

"I hold that glaucoma may be secondary to some previous disease of the nasal accessory cells or sinuses and probably most often of the ethmoid cells.

"The various possible causal factors all yield to this reasoning. The nervous element may be explained by the fact that the nasal nerve, as it passes through the ethmoid cells, may be irritated; and through its relation to the lenticular ganglion and the long ciliary nerves the ciliary body (or secreting portion of the ocular media) may be so influenced that its function is perverted. Vasomotor disturbance may ensue resulting in congestion of the uveal tract. Furthermore, the ocular media are altered from their natural crystalloid state and through albuminous changes they become colloidal in nature, thereby hindering the normal outflow by way of Fontana's spaces and Schlemm's canal, and the possible osmosis through the venous channels is impaired. Hence, through a combination of factors retention of secretion follows, and the symptoms are still further increased by the gradual apposition of the iris over the ligamentum pectinatum with obstruction of Fontana's spaces.

"Knies' theory of a 'specific glaucoma poison' may be explained through the theory of positive infection, which idea I now submit as an original corollary in explanation of Knies' theory, first advanced in 1890.

"The method by which this ensues may result from streptococcic, staphylococcic or other infection of the ethmoid cells or nasal accessory sinuses, which having become infected act as natural laboratories in which the germs multiply and develop toxins which may be conveyed by way of vascular or lymphatic channels to the uveal tract and so occasion the change from crystalloid to the colloidal state, *this change being the sine qua non of glaucoma.*

"Providing that this theory is true, then relief of glaucoma symptoms should ensue upon appropriate intranasal treatment or surgical interference.

"Continued study and more recent clinical observations have led me to the belief that the intra-ocular changes and increased tension, in at least a fair proportion of cases, are secondary to extra-ocular pressure, and that the colloidal changes are induced by circu-

lating toxins originating in infected ethmoid cells or other accessory nasal sinuses."

Significant symptoms suggestive of the various sinuses are easily determined, and one particular point which dominates sinus pains are that they may be aggravated in the early morning when first rising, passing off within a few hours—this being occasioned by the fact that the sinuses involved fail to empty themselves rapidly enough; but when empty the symptoms depart.

The many symptoms are now so well-known that I will not repeat them, but there is one significant fact which may well be emphasized, and that is that headaches and pains of a dull persistent nature are likely to result from involvement of the frontal. ethmoid or sphenoid cavities, while the typical neuralgic conditions of tic douloureux should suggest the maxillary sinuses primarily, because the dental nerves are superficially located within the maxillary sinuses, and these cavities when diseased will occasion very definite symptoms of neuralgic type.

An important consideration at present is the location of the pituitary gland, which is located in the sella turcica just posterior to the sphenoid cavity. The anterior lobe, which is developed from the ectoderm of the buccal cavity, is very vascular and very positively influenced by diseased states within the nose.

The fact that the posterior lobe is developed from the brain does not prevent its being influenced by conditions of the nose. Clinical facts in evidence of these two parts of the gland being influenced by nasal diseases are to be found in my record of cases, for immediately after operations upon the posterior ethmoid and sphenoid cavities I have witnessed a gain in weight of from twenty to forty pounds. In one patient, not alone was this weight excessive, but the phalangeal joints became enlarged and the patient acquired some of the aspects suggestive of acromegalia.

Cushing suggests that infection of the pars nervosa sometimes occasions polyuria. I have noted in two instances that subsequent to intra-nasal operations of a deep kind, for a short period there was exhibited a greatly increased excretion of urine; in one instance as much as 90 ounces having been passed per diem.

These observations permit much speculation which may in time lead to the determination of valuable clinical data.

Effects from pus-absorption have been noted so frequently

that I will not discuss them. One condition, however, which warrants study by specialists is epilepsy, for it is frequently associated with actual empyemas involving the frontal sinuses, as well as other accessory cavities.

My experience leads me to the belief that no consideration of an epileptic is complete until the state of the intra-nasal parts and accessory nasal sinuses is determined, *and if any exploratory operation is to be performed it would be much better to perform a radical intra-nasal operation rather than the usual trephine operation.*

During the showing of slides I will mention an original method applying to this particular class of cases *consisting of an exploratory submucous resection* with maxillary paracentesis, probing of the frontal sinuses, and when possible, of the sphenoid cavities, and following this exploratory procedure with full middle turbinectomies, if required.

116 Washington Avenue.

DISCUSSION.

Ira O. Denman, Toledo, O.: Mr. President—I am sure that after hearing Dr. Dowling's very interesting paper you will all sympathize with me in my attempt to open a discussion upon it. As I understand it, a discussion should be in one of two directions: it should either be an addition to what has been written or it should be a criticism of what may have been said. In the first instance, while I feel extremely complimented that Dr. Dowling has asked me to open his discussion, and while I have always admired his work, yet I fear that my discussion must be altogether a criticism, but in this manner: that is, every time I feel that I have gained a comprehensive knowledge along this line, Dr. Dowling immediately comes along and upsets it; then it takes me about four or five years to catch up with the new methods he describes in one of these epoch-making papers.

I recall that eight or ten years ago I heard Dr. Dowling give the technique of the argyrol tampon as he applied it. I think that was in Detroit; since then I have been interested in following up that original method and technique.

I think you will agree with me that the various techniques which have been outlined today will constitute another epoch in

knowledge of this treatment, and it goes to prove that however secure we may feel in the status of our knowledge upon certain subjects, and possibly that we have mastered it, anyone may come along at any time and show us that there is yet much to learn.

Charles Leslie Rumsey, Baltimore, Md.: In this classical paper there are again found the usual scientific and original ideas presented by Dr. Dowling to this Society. It must impress this Society with the importance of making careful nasal examinations.

I am inclined to believe that nasal sinusitis, influenza and grippe are one and the same thing. *Quo erat demonstrandum.* It is not unlikely that acidosis in the young is from nasal sinus disease.

There is no question as to nasal sinus diseases in children. I have often thought that care of the nose of the newborn will be as serviceable to humanity as the care of the eyes immediately after birth. Why could not the vaginal discharge of the mother infect the numerous pouches, as expressed by Dr. Dowling in his description of the sinuses in children? The anamnesis in sinus disease in adults frequently showed that the disease had its inception in childhood. Large sinuses become diseased, most frequently due to the fact that they secrete much more mucus than a small sinus. They therefore have greater difficulty in emptying themselves. For instance, a very small frontal sinus rarely requires surgical interference. If one finds in children a greater amount of lymphoid tissue on one side than on the other or a unilateral hypertrophy along the faucial fold, there is, to my mind, a suggestive underlying sinusitis. I have often observed chronic non-suppurative diseases of the sinuses give rise to chronic middle-ear catarrh; chronic suppurative diseases of the sinuses cause tubal thickening and obstruction, with secondary middle-ear catarrh. My experience confirms the words of the essayist concerning mastoid and middle-ear disease associated with obstruction in the inferior nasal meatus of the same side, and also complicated by a maxillary empyema or simple infection of the same side. Again, comes the importance of a nasal examination. for the mucous membrane lining the eustachian tube is a continuation of the mucous membrane lining the nose and throat. I believe argyrol tampons will suffice in sinus diseases in children. I concur with Dr. Dowling that these cases are not operative ones.

Dr. Dowling gives us an axiom: "Establish proper ventilation and promote natural drainage." By means of any suction-ap-

paratus, with or without the addition of canulas, the air in the sinus can be exhausted, with the escape of mucus, after which a pressure of ten to fifteen pounds of air medicated with nebulized oil or iodine can be introduced into the sinus. It may be necessary to throw into the sinus about six cubic centimeters of sterile water to dilute the thick mucus, for at times the secretion is too thick to be aspirated. In addition, I have found a course of vaccine treatment most serviceable. I am now using autogenic vaccine.

The presentation of the essayist's views of glaucoma has clarified my thought on the relationship of sinus diseases to glaucoma, and presents ideas I have never read elsewhere.

Dr. Dowling also makes important observation of the pituitary gland and the influence created by operations upon the posterior ethmoid and sphenoid cavities. In reference to epilepsy, I have removed empyema of frontal and ethmoidal sinus of left side without an attack for two years. Previous to the intranasal surgery, the patient had been taking as much as one hundred grains of potassium bromid daily. The patient had a recurrent attack of epilepsy following the Spanish flu of October, 1918, with reinfection of left antrum. However, the patient has had two epileptic seizures since the antrum has been clear.

Dr. George B. Rice, Boston, Mass.: I feel much hesitancy in criticizing Dr. Dowling's work because he has done so much for this Society, and for the profession as a whole, in demonstrating the results of his original research work. I feel, however, that I must take exception to one of his methods of promoting drainage in the so-called Lothrop operation. Dr. Lothrop lives in Boston and is a general surgeon. Some years ago, while a student at Harvard Medical School, he did a good deal of original work in the anatomy of the accessory sinuses of the nose. The results of this work were published in a leading surgical journal fifteen or twenty years ago. Later Dr. Lothrop's brother, also a physician, began specializing in the nose and throat, and with abundant clinical opportunities the two Lothrops developed the present frontal sinus operation, which I think is superior to all others. I have been doing accessory sinus surgery for over twenty-five years; following the methods of the different periods: the Luc-Caldwell operation, which was so many times a failure, the Coakly operation, and the tedious and dangerous Killian operation. So when Dr. Lothrop

presented his method of operation on the frontal sinus it seemed to me a great step in advance. I feel that if the fronto-nasal duct is enlarged sufficiently with burrs and rasps there will be no need of drainage tubes of any sort, nor is there any reason why the external wound should not be closed at once. I have done this operation a good many times, with uniform success.

Otorhinolaryngology in 1920.—L. Dufourmentel, *Paris Médical,* Sept. 4, 1920; Abs. *Jour. A. M. A.,* Nov. 13, 1920.—The author cites Moure's method of continuous aspiration during the operation on the nose, throat, etc., and Bar's warning that the external ear may be inoculated from a suppurating skin disease and spread from the ear to deeper organs. Armengaud has found that a rebellious fetid otorrhea may be the warning sign of tubercle bacillus invasion. Portmann advocates scraping out the diseased bone in ethmoid sinusitis, but Dufourmentel protests that, in less experienced hands, acute meningitis frequently develops in consequence. The author has reported several such cases in recent years, and has encountered another case of this grave complication of surgical intervention on the ethmoid. Intratracheal medication and injection through a tracheal fistula have been studied considerably of late. This the author found to be adapted for medication of grave pulmonary tuberculosis where powerful, continuous and prolonged medicinal action is desired. The author also found radium relieved pain and permitted eating in cancer of the esophagus, but did not affect any permanent cure. H. L. G., Jr.

SUPPURATIVE OTITIS MEDIA; TREATMENT.

Fred C. Sage, M.D.

Waterloo, Iowa.

Read at the Annual Meeting of the O., O. & L. Society, Cleveland, Ohio, June, 1920.

SUPPURATIVE OTITIS MEDIA may be acute or chronic. The chronic form nearly always is a result of an acute attack, though it may follow a catarrhal inflammation of the middle-ear which has become infected in some manner. Many aurists consider a case of suppurating ear which presents itself for treatment as chronic suppurative otitis media, while others do not regard the case as chronic until several months have elapsed. Just when an acute case becomes chronic is not easy to determine, and is not material as affecting our choice of treatment. However, early acute cases are nearly always monobacterial, while all old chronic cases are polybacterial.

The most common invading germs are the varied strepto- and pneumococcic forms, the staphyloccus, influenza bacillus, diploccocus, and others. The streptococcus pyogenes and hemolyticus are among the most malignant and destructive invaders, and their presence frequently presages a sudden mastoid involvement. Our army records showed extensive destruction, both of bone and soft parts, days, and even hours only, after the initial attack. The staphyloccus is, no doubt, the least destructive of this group so that your laboratory findings are at least suggestive of the degree of severity. Dangerous cases, says Phillips, of New York, are ones having the diploccocus intercellularis, streptococcus pyogenes with many leucocytes and myelocytes and epithelial cells. Non-dangerous are staphylocci plus abundant living leucocytes, while giant cells indicate tuberculosis.

All exanthemata and most infectious diseases may produce suppurative otitis media. One-fifth of all scarlet fever cases, one-tenth of all diphtheria cases and one-twentieth of all measles cases have acute purulent otitis media. But measles is a nearly universal disease, thus furnishing many cases in the aggregate. Our recent "flu" cases very often had ear-infections; the presence of adenoids

or any other hypertrophied lymphoid tissue is certainly a predisposing menace in causing ear infections. Then we may have an extension from infected sinuses, the antrum, or from an abscessed tooth. Very recently the author had such a case from a tooth, with mastoid involvement—great tenderness and throbbing pain in mastoid region and ear. Extraction of the tooth and curretting away the necrosed tooth-socket assisted in a prompt cure of all symptoms. Some of the worst cases of suppurating ears seen by the author have occurred during hot weather in bathers. These cases are hard to manage to prevent re-infection, and usually have a very profuse, foul, malodorous otorrhoea.

Only one more cause of infection will we mention, and that is local injuries. For illustration, a case of the author's was that of a football player who, during a scrimmage, had a broken stub of weed pushed through the drum-membrane, dislocating the ossicles, causing a rather prolonged suppuration and permanent impairment of hearing. Another was a lad who put a pebble in the ear-canal, which became lodged against the drum. Removal was very difficult because of the swelling from three previous unsuccessful attempts at removal. Traumatic cases are often followed by some permanent impairment of function and this case was no exception.

In any case of suppurative otitis media the prognosis should be guarded and has to consider (1) cure of the discharge, (2) loss of function, and (3) danger to life. In an old standing case some necrosis of bony structure is most certain to occur. Necrosis of the incus is the most common. It has a very meagre blood supply at best, and this circulation may be shut off entirely by the swollen soft tissues. Of the graver complications of suppurating ears, mastoid involvement, affections of the labyrinth and extension of the process to the dura or brain are the most common. When in treating a case we discover marked tenderness of the postero-superior wall of meatus, with later a sagging of this region and occlusion of canal, our patient should, no doubt, have an immediate mastoid operation. In any case of uncured chronic otorrhea our life insurance companies are forced to consider it a poor risk. An operation frequently indicated in chronic suppurating ears is ossiculectomy. When one is certain of caries or necrosis of these ossicles, and the case is prolonged and obstinate, then removal may be conservative rather than the more radical mastoid operation.

In an acute ear infection with bulging membrane a good thorough incision, preferably in the postero-inferior quadrant, is always to be considered. Notice we said thorough incision. The word paracentesis we never liked, as it sounds too much like a pin-prick puncture. Speaking as an autoist, you need a rim-cut rather than a puncture. But if you let nature take its course, you may expect a blowout and in a location where nature does a poor job of vulcanizing. In the treatment of suppurating ears most aurists seem to depend very largely on local treatment. Authors of textbooks as well as aural clinicians generally say little about the general treatment—according to the observation of the author.

As to local treatment, aurists seem divided into two camps, the wet and the dry. If Governor Edwards, of New Jersey, were an aurist he certainly would be for frequent irrigations; while I know my old friend Bryan would use dry dressings—and I sure am for Bryan. I was surprised to find Phillips, of the New York Post Graduate School, advising the use of at least one to two quarts of normal salt solution every few hours, especially in acute suppurations, in his latest edition. Dr. Dench's last edition mentions using *at least half a pint* of 1 to 5000 bichloride occasionally for cleansing purposes. But he strongly condemns the use of powders, at least by the patient, and only in very small quantities by the surgeon —never filling the canal. Personally I have never seen any bad results from *loosely* filling the ear-canal with the Boro-calendula powder, provided it is always syringed out the following day. I have come to rely on it exclusively as a dry dressing, but it should *never be packed* tightly. I think it is most useful when the discharge is very profuse and purulent. It has the advantage at least of being simple in its application and always painless, which may help to get the confidence of nervous patients.

When necessary to irrigate the ear-canal there is a choice of boric solution, phenol—two minims per ounce, bichloride 1 to 5 or 10 thousand, or formalin—1 to 4000. The boric acid always is safe and can be used in any strength, and is probably as good as anything. Even sterile water or normal salt solution are all right and proper. But many aurists are using less and less of the wet treatment. There seems to be a period in certain cases when the discharge is most profuse in quantity regardless of any treatment. It is then that flushing the canal mechanically removes foul and

perhaps excoriating secretions and helps keep your patient clean, sanitary and comfortable. But as soon as your canal is clean, with ever so little solution, it is hard to see any advantage in continuing any sort of spray against the exposed, sensitive tympanic membrane. In the majority of cases the surgeon can quickly and surely remove all discharges and secretions from the ear-canal with the cotton-tipped probe, and with the added advantage of knowing at all times, (a) the character of the discharge, (b) the condition of the surrounding tissue, (c) size and location of the perforation, and (d) whether cholesteatoma or granular substance is present—all of which knowledge is essential for a prognosis and proper treatment.

After the external meatus has been thoroughly cleaned the surgeon may properly use inflation or suction to remove any remaining secretion. But unless this is carefully and painlessly done it may do harm. It is often better to be sane and sensible than ultra scientific; and discharges have been kept up by too much manipulation. The meatus now being clean the author instills or applies with the cotton probe a few drops of the following solution: Equal parts of grain alcohol and a saturated boric acid solution to which has been added alka- or glycothymolin, 10 per cent. The toilet is then completed by carefully placing in position in the canal a gauze drain or wick. This may be changed daily, or less often. Sometimes plain gauze is used while in others antiseptic gauze is better. The author's choice of an antiseptic for several years has been the solution sulpho-carbolate of soda, mentholated, as made by P. H. Mallen's Homœopathic Pharmacy, Chicago. This has given most excellent results, is soothing and safe and may be used freely with or without the gauze wick, by filling the meatus with a warm solution and retaining it with a plug of cotton. It certainly destroys the purulent organisms of this locality.

In some of the most obstinate and chronic cases I have obtained success with the following formula:

Iodine	grs. v
Potassium iodid	grs. v
Glycerine	drams v
Spirits Vini Recti	drams iii
Formalin (40 per cent.)	drops xxiv

This is instilled into the ear after the ear is cleansed and with the patient lying down, and the solution may also be churned in with a cotton probe or pumped in the ear and allowed to remain thirty minutes. It is somewhat painful in some cases, but has cured cases of many years' standing and patients who had borne much at the hands of many doctors. I am indebted to a member of this Society, Dr. Alfred Lewy, for his formula and I wish here publicly to thank him. If Dr. Lewy or other members will try out my Sulphocarbolate of soda, as previously mentioned, I shall hope for some equal future reward. In the general treatment of these cases Dr. Dench mentions only iodid of iron, cod-liver oil, and the hypophosphites, and they are no doubt useful; the iodid of iron being specially useful in the lymphatic patient.

Vaccines once had their vogue but are now scarcely used. I could never notice any benefit from them. Our homœopathic remedies without doubt help to shorten the attack and diminish its severity, but frankly I have frequently been disappointed in these cases in not getting better results. Perhaps it is because while focusing our attention on the internal remedy we overlook the local treatment, which is certainly important.

Our most useful remedies, in my opinion, are ars. iodid, hepar-sulph., silicea, hydrastis, pulsatilla and sulphur, the calcaries and mercurius vivus, given according to well-known indications. At its worst a suppurative middle-ear may tax all the resources of any man's skill, and a patient with a hole in the ear-drum is never quite sound, yet even with all that we can generally cure the purulent condition, which is well worth while.

Two Carcinoma Patients Alive Eight Years After Radium Treatment.—E. S. Moyneux, *British Med. Jour.,* London, Oct. 9, 1920; Abs. *Jour. A. M. A.,* Nov. 6, 1920.—One of the cases was that of a carcinoma of the pharynx, quite beyond operative interference, and a scirrhus cancer of the breast. The first case is 69 years of age and able to lead a busy life. The second case, a woman, was well until recently, when symptoms suggest recurrence in the lungs and liver. H. L. G., Jr.

Choked Disc.—A. Cantonnet, *Bulletin Médical, Paris,* Aug. 21, 1920; Abs. *Jour. A. M. A.* Oct. 23, 1920.—The diagnostic importance of edema in the optic disk, and the imperative necessity for reducing intracranial pressure when it is discovered is considered by the author. As there are no functional signs from it until the advanced stage appears, it is apt to be neglected or overlooked, and the vitally important lumbar puncture omitted. Thanks to the transparency of the eye we are enabled to inspect the actual nerve centers here.

H. L. G., Jr.

Syphilitic Disease of Nasal Accessory Cavities.—*Hospitalstidende,* Copenhagen, Sept. 1, 1920; Abst. *Jour. A. M. A.,* Nov. 27, 1920.—V. Schmidt reports some long misinterpreted cases which have taught him the necessity for suspecting syphilis in all cases of disease of the air spaces accessory to the nose. Among his eighty-one cases of sinusitis, over 17 per cent. were syphilitic. Omitting those with syphilitic manifestations elsewhere, there were 9.9 per cent. with the syphilitic disease in the sinuses alone.

H. L. G., Jr.

Classification of Disorders of Hypophysis.—W. Englebach, *Endocrinology,* July-Sept., 1920; Abs. *Jour. A. M. A.,* Nov. 20, 1920.—The author bases his classification solely on the "hormonic" signs of the disease, grouping them into three divisions: (1) Anterior lobe disorders, in which this lobe alone was involved; (2) posterior lobe disorders, in which this lobe, without clinical evidence of the anterior lobe dyscrasia, was affected; (3) bilobar disorders, in which abnormal function of both lobes could be demonstrated. The subdivisions of each lobar division according to the activities prevailing are: (a) Hypoactivity and (b) hyperactivity; the bilobar group are: (a) hypoactivity, (b) hyperactivity, and (c) heteroactivity. Heteroactivity comprises mixed cases, in which opposite secretory states of the individual lobes occur. The author redivides these activities into: (1) pre-adolescent, and, (2) post-adolescent varieties. A final division is made of the age incidence into: (a) a-neoplastic and (b) neoplastic varieties.

H. L. G., Jr.

Discussion by Dr. Albert E. Cross, Worcester, Mass.

Dr. H. S. Weaver, Philadelphia, Pa., "Magnesium mur. in Facial Neuritis, with Report of a Case."

Discussion by Dr. L. E. Marter, Philadelphia, Pa.

Dr. H. E. Moore, Ambridge, Pa., "Consideration of Some of the Problems of Iritis."

Discussion by Dr. Frank O. Nagle, Philadelphia, Pa.

Drs. S. B. Moon and I. D. Metzger, Pittsburgh, Pa., "Basilar Tumors Affecting the Visual Field; Two Rare Cases."

Dr. Richard Furlong, Endicott, N Y., "The Specialist's Practice in the Square Deal Towns."

Discussion by Dr. Gilbert J. Palen, Philadelphia, Pa.

Dr. George W. McDowell, New York, N. Y., "Symmetrical Central Degeneration of the Retina; Report of a Case."

Discussion by Dr. W. H. Phillips, Cleveland, Ohio.

Dr. G. A. Suffa, Boston, Mass., "Synergism a Co-operative Action of the Extraocular Muscles"—(Continued).

Discussion by Dr. Albert E. Cross, Worcester, Mass.

Dr. C. E. Ferree and Dr. Rand, Bryn Mawr, Pa. Subject to be announced later.

Dr. J. W. Stitzel, Hollidaysburg, Pa., "Myopia."

Discussion by Dr. George A. Shepard, New York, N. Y.

Dr. R. I. Lloyd, Brooklyn, N. Y., "The Stereo-Campimeter; Presentation of a New Instrument for Study of Central Field Defects."

Discussion by Dr. G. DeWayne Hallett, New York, N. Y., Dr. H. D. Schenck, Brooklyn, N. Y., and Dr. G. J. Palen, Philadelphia Pa.

Dr. William McLean, New York, N. Y., "A Modification of the Briggs Tendon Tucking Operation."

Discussion by Dr. G. DeWayne Hallett, New York, N. Y.

EAR BUREAU.

Dr. L. E. Hetrick, Chairman, 30 West 48th St., New York.

Dr. T. W. Stephens, Pittsburgh, Pa., "A Mastoid Case with Interesting Complications."

Discussion by Dr. W. C. Cook, Pittsburgh, Pa.

Dr. G. D. Arndt, Mt. Vernon, Ohio, "Prophylaxis of Mastoid Infection."

Discussion by Dr. C. E. Ferree, Bryn Mawr, Pa., and Dr. H. S. Weaver, Philadelphia, Pa.

Dr. William G. Shemeley, Jr., Philadelphia, Pa., "Report of Additional Cases of Neurolabyrinthitis."

Discussion by Dr. D. A. Williams, Providence, R. I.

Dr. George J. Alexander, Philadelphia, Pa., "Lateral Sinus Thrombosis, with Report of an Interesting Case."

Discussion by Dr. Dean W. Myers, Ann Arbor, Mich., and Dr. Alfred Lewy, Chicago, Ill.

Dr. D. A. MacLachlan, Detroit, Mich., "Some Experiences in the Treatment of Otitis Media."

Discussion by Dr. Neil Bentley, Detroit, Mich.

Dr. R. C. Cooper, Pittsburgh, Pa., "Cerebral Abscess."

Discussion by Dr. Charles A. Ley, Pittsburgh, Pa., and Dr. Burton Haseltine, Chicago, Ill.

Dr. Gilbert J. Palen, Philadelphia, Pa., "Undergraduate Teaching in Otology."

Discussion by Dr. J. V. F. Clay, Philadelphia, Pa.

Dr. Frank Novak, Chicago, Ill., "The New Conception of Labyrinth Physiology."

Discussion by Dr. G. W. Mackenzie, Philadelphia, Pa.

Dr. H. P. Bellows, Boston, Mass., "The Mercurials in Aural Practice."

Discussion by Dr. George W. McDowell, New York, N. Y.

Dr. Dudley A. Williams, Providence, R. I., "Some Functional Hearing Tests."

Discussion by Dr. W. W. Muncy, Providence, R. I., Dr. W. G. Shemeley, Philadelphia, Pa., and Dr. Albert Greene, Philadelphia, Pa.

Dr. E. S. Hallinger, Haddon Heights, N. J., "Microtia, with Report of a Case."

Discussion by Dr. L. E. Hetrick, New York, N. Y.

Dr. Charles E. Cole, Prairie Du Chien, Wis. Subject to be announced later.

Dr. James A. Campbell, St. Louis, Mo., "Electrolysis for Moles, Warts, etc., Addendas."

Discussion by J. R. McCleary, Cincinnati, O.

Dr. I. L. Moyer, Columbia, Pa., "A Report of Two Ear Cases."

Discussion by Dr. George C. Webster, Jr., Chester, Pa.

Nose and Throat Bureau.

Dr. Alva Sowers, Chairman, 30 N. Michigan Blvd., Chicago, Ill.

Dr. J. J. McDermott, St. Joseph, Mich., "A Few Nose and Throat Problems."

Discussion by Dr. Richard H. Street, Chicago, Ill.

Dr. Ralph W. Hulett, Champaign, Ill., "Carcinoma of the Ethmoid."

Discussion by Dr. J. V. F. Clay, Philadelphia, Pa.

Dr. R. C. Eckhardt, New York, N. Y., "Hemostasis in Tonsillectomy."

Discussion by Dr. John R. Honiss, Rochester, N. Y.

Dr. R. P. McGee (by invitation), Pittsburgh, Pa., "Plastic Surgery of the Face and Mouth." Illustrated.

Discussion by Dr. H. L. Northrop, Philadelphia, Pa.

Dr. Thomas L. Shearer, Baltimore, Md., "The Relation of the Endocrine Glands to Conditions Affecting the Respiratory Passages."

Discussion by Dr. Augustus Korndoerfer, Jr., Philadelphia, Pa., and Dr. John B. Garrison, New York, N. Y.

Dr. William M. Muncy, Providence, R. I., "Relation of Posterior End Hypertrophies to Ear Conditions."

Discussion by Dr. D. A. Williams, Providence, R. I., and Dr. G. J. Alexander, Philadelphia, Pa.

Dr. I. O. Denman, Toledo, Ohio, "Dressings and After-Care Following Intra-Nasal Surgery."

Discussion by Dr. J. I. Dowling, Albany, N. Y.

Dr. M. B. Coffman, Richmond, Va., "Some Modifications in the Resection of the Nasal Septum."

Discussion by Dr. Harold Foster, New York, N. Y.

Dr. Harry M. Sage, Columbus, Ohio, "Hyperplastic Ethmoditis; A Résumé of Literature and Observations."

Discussion by Dr. Alfred Lewy, Chicago, Ill.

Dr. M. J. Hubeny, Chicago, Ill., "Limitations of Radiograms in Diagnosis of Dental Pathology." (By invitation).

Discussion by Dr. E. D. Hunter, Chicago, Ill.

Dr. H. R. Wynn, Ann Arbor, Mich., "Sphenoid Case."

Discussion by Dr. Dean W. Myers, Ann Arbor, Mich.

Dr. H. B. Bryson, Pittsburgh, Pa. Subject to be announced later.

Dr. K. S. Simpson, Pittsburgh, Pa. Subject to be announced later.

Dr. A. D. Williams, Huntsburgh, Ohio, "Hay Fever."

Discussion by Dr. F. B. MacMullen, Detroit, Mich.

Dr. George B. Rice, Boston, Mass. Subject to be announced later.

Dr. C. L. Rumsey, Baltimore, Md. Subject to be announced later.

Medical Economics.

Dr. Burton Haseltine, Chairman, 122 S. Michigan Ave., Chicago.

Dr. Burton Haseltine, Chicago, Ill., "The Need of Economic Education in the Medical Profession."

Discussion by Dr. Gilbert J. Palen, Philadelphia, Pa.

Dr. Frank Wieland, Chicago, Ill., "Medical Service as a Commodity in the Industrial World."

Discussion by Dr. Martin Z. Westervelt, New Haven, Conn.

Dr. A. W. LaForge, Chicago, Ill., "Practical Results of Business Education Among Physicians."

Discussion by Dr. S. B. Moon, Pittsburgh, Pa.

SPECIAL ATTRACTIONS FOR O., O. & L. MEETING AT WASHINGTON.

Dr. Rea Proctor McGee—"Plastic Surgery of the Face and Mouth."

Dr. McGee will present a paper on Plastic Surgery, illustrated with lantern slides of original drawings that were made of details

of the work of the maxillo-facial sections, both with the British and the American Army. These drawings were made for the United States Government as a part of the necessary information for the Surgeon-General's office.

He will tell of the methods of repair of facial injuries, including partial and total loss of the nose; repair of injured eyelids; the new methods of epithelializing mucous surfaces in the mouth, nose and eyes; plastic restoration of skin surfaces, and if time permits some of the details of bone-graft in the jaws, and repair of traumatic cleft palate. In addition to this he will explain, with illustrations, some of the orthopedic apparatus that is used in holding these facial tissues during the process of repair.

Dr. Frank Novak—"The New Conception of Labyrinth Physiology."

Dr. Novak will review the accepted ideas as to labyrinth function and labyrinth tests. He will then discuss the investigations of Professor Coleman R. Griffith, of the University of Illinois, which seem to cast some doubt on the accuracy of the Barany teachings. He will advance an original theory of labyrinth function which he believes to some extent reconciles these antagonistic theories.

Dr. Novak will supplement this discussion with a report of his clinical study of labyrinth cases in Cook County Hospital, Chicago, and will present pathological specimens showing lesions which have been diagnosed ante-mortem by means of labyrinth tests.

Dr. Novak's report will be discussed by Dr. George W. Mackenzie, of Philadelphia, Pa.

Dr. W. D. Rowland—"Pemphigus of the Conjunctiva."

The following is a synopsis of a case report on pemphigus which I expect to present at the Washington meeting in June:

Synopsis of Case Report.—Male, aet. 67, carpenter and shipper in an ice cream factory, developed irritable lids and conjunctiva. One year from first complaint a marked symblepharon involving the lower cul-de-sac, and outer and inner canthi of the upper lid; complete pannus; macerated conjunctival and corneal surface of the right eye, and partial symblepharon of the left inferior cul-de-

sac, and at inner and outer canthi of both lids, but no corneal involvement. Six months later xerophthalmus is well developed in the right eye with almost total loss of vision, and beginning xerophthalmus in the left with loss of vision equal to that of the right. The conjunctivae are essentially shrunken and pannus covers both cornea. No skin lesions have been observed at any time. This places it in the class of unusually rare essential shrinking of the conjunctiva, or chronic pemphigus.

Photographs and diagrams of the lesions accompany the paper.

Bureau of Economics.

Burton Haseltine, M.D., Chairman.

"The Need of Economic Education in the Medical Profession."—Burton Haseltine, Chicago.

Discussion opened by Gilbert Palen, Philadelphia.

Dr. Haseltine will point out the many defects under which physicians labor because of the lack of coherent opinion and systematic teaching regarding the economic phase of medical practice. He will recommend systematic instruction upon these subjects by making it a part of under-graduate curriculi and will make constructive suggestions as to how these could be made valuable.

"Medical Service as a Commodity in the Industrial World."—Frank Wieland, Chicago.

Discussion opened by Martin Z. Westervelt, New Haven, Conn.

Dr. Wieland will show the economic loss suffered in the industrial world because of physical defects of employes. He will report upon the work of one large corporation in which this loss has been recognized and in which physical defects are regularly corrected as a business investment. He will describe in detail the work of the Medical Department of Montgomery Ward & Co., which, under his direction, has done more than any other large concern in the world to solve the medico-economic problem.

"Practical Results of Business Education Among Physicians."—Alvin W. LaForge, Chicago.

Discussion opened by Seymour B. Moon, Pittsburgh, Pa.

Dr. LaForge will report upon results already apparent from

the discussion of the economic question among physicians. He will make constructive suggestions as to how sound business principles can be applied in the work of the individual doctor.

MEDICAL MEETINGS AND MEDICAL LITERATURE.

PRACTICALLY every man who has made a success in the practice of medicine was a more or less regular attendant at medical meetings, and was a subscriber to one or more medical periodicals; while most men who have made a failure in the practice of medicine have ignored medical meetings and medical literature. Furthermore, it is a sign that a fellow is nearing the "has been" class when he ceases attending meetings and eases up in his reading of medical journals.

The moral is to avoid being a fossil; keep up your attendance at medical meetings and keep on reading the journals.

G. W. M.

TO THE MEMBERS OF THE O., O. & L. SOCIETY.

THE following list of ten rules was taken from the Federation News of January, 1921. *Please read!*

How to Kill the Washington Meeting.

1 Don't come to the meeting.
2 If you do come, come late.
3 If the weather doesn't suit you, don't think of coming.
4 If you do attend the meeting, find fault with the work of the officers and other members.
5 Never accept office, as it is easier to criticize than to do things.
6 Nevertheless, get sore if you are not appointed to a committee; but if you are, do not attend the committee meetings.
7 If asked by the chairman to give your opinion regarding some important matter, tell him you have nothing to say. After the meeting, tell everyone how things ought to be done.

8 Do nothing more than is absolutely necessary, but when other members roll up their sleeves and willingly, unselfishly use their ability to help matters along, howl that the organization is run by a clique.

9 Hold back your dues as long as possible, or don't pay at all.

10 Don't bother about getting new members. "Let George do it!"

Please remember that we are asking everyone to bring at least one new member to Washington. Send the application blanks, accompanied by the check, to the office of the secretary.

Very cordially,

Neil Bentley, *Secretary.*

SYPHILIS AS A FACTOR IN EYE, EAR, NOSE AND THROAT DISEASES.

No matter whether a physician practices general medicine or one of the specialties, the fact remains that the better posted he is on the subject of syphilis the better he is equipped for his calling. There are as many failures in the treatment of obscure cases by reason of the failure to recognize syphilis, especially in its latent form, as from all other causes combined. This statement is particularly applicable to affections of the organs which come within the scope of our specialty.

The eye, ear, nose and throat are especially prone to be hit by the virus of syphilis in one or other of its stages. Furthermore, active, latent and post-syphilitic affections of the central nervous system produce characteristic findings on the organs belonging to our specialty. Many illustrations could be cited but one will suffice to emphasize the importance of the early recognition of syphilis affecting these structures.

There are more cases of deafness of the so-called nerve type due to syphilis than all other causes taken together. Of the total number of such cases more than 75 per cent. have been allowed to go unrecognized, or were recognized too late to save the hearing. Some investigators go so far as to claim that in every case of syphilis during the secondary or pretertiary stage the meninges are involved, the intensity varying from a slight congestion to an active inflam-

mation. The more definite the inflammation the more certain the eighth nerve is to be involved. The recognition of eighth nerve involvement is possible only by definite tuning fork findings.

The average textbook dealing with the eye, the ear, or the nose and throat, does not devote attention to the subject of syphilis in a proportion at all commensurate with its importance. The natural conclusion to be drawn is that the eye, ear, nose and throat specialtists generally are weak in this particular phase of their subject. On this account, the question is frequently put by the younger man to the older one, Where can I gain a fuller knowledge of syphilis? The answer is not at all easy, for one usually has to dig it out for himself from a mass of literature. Within the last three years a journal has been started devoting its entire space to the subject of syphilis—known as the American Journal of Syphilis. This is a journal that can be recommended and one which every eye, ear, nose and throat specialist should have ready access to.

G. W. M.

NEURITIS AND NASAL OPERATIONS.

THE growing frequency and commonplaceness of nasal operations has brought to light new evidence of cause and effect that hitherto has been little suspected. It is a fact that severe and intractable facial neurites are occasionally consequent upon operative work on the superior maxilla. The unfortunate feature of these cases is that when they present themselves they have been the rounds of the nose-and-throat men who all have taken a "mechanical crack" at them, much to the patient's detriment. The present fervor to extract teeth that have purulent pockets about the roots has added a quota to these traumatic neurites. Again, trauma to a true neuritis has been exaggerated by the extraction of even remotely suspicious teeth with the hope of relieving a toxic neuritis. Frequent diagnostic puncture and dental extractions are, then, the two common errors in these cases.

The most frequent ailments of the superior maxilla (dental abscess and antrum infection) are not difficult of diagnosis by means other than operative. The careful eliciting of symptoms will alone often give the proper diagnosis. Added to this we have the X-ray,

postural tests, and transillumination. If these are negative there is every reason to face a neuritis squarely, and advise the patient to get down to the persistent treatment of the "face-ache" as a neuritis. It is certainly advisable for the patient's sake to warn against continuing the rounds of nose-and-throat specialists.

These considerations suggest the somewhat remote chances we take when doing nasal operative work of finding a subsequent neuritis develop. It is well to question to see if there is a rheumatic or neuritic tendency present, and if so to have appropriate treatment instituted. The relatively recent attention to the reduction of an acidosis of the system has done much to prepare such cases for subsequently needed treatment along other lines.

The occasional beginning tic douloureux, with or without suggestions of antral or dental trouble, should be recalled. And here again the true nature of the disease should be fairly faced for the patient's sake and the sake of the physician's reputation. Results may not appear quickly with medicinal treatment in these cases, it is true, but this treatment is surely more satisfactory than no relief or than an exaggeration. The cause of the symptoms must be looked for beyond the local region, even though the local operative measures have been their initiation. D. M.

THE SUCCESS FAMILY.

The father of Success is Work.

The mother of Success is Ambition.

The oldest son is Common Sense.

Some of the other boys are Perseverence, Honesty, Thoroughness, Foresight, Enthusiasm and CO-OPERATION.

The oldest daughter is Character.

Some of her sisters are Cheerfulness, Loyalty, Courtesy, Sincerity and Harmony.

The baby is Opportunity.

Get acquainted with the "old man" and you will be able to get along pretty well with the rest of the family.—*The Rotator,* San Diego, Cal.

VERTIGO.*

G. W. Mackenzie, M. D.,

Philadelphia, Pa.

A SATISFACTORY definition of vertigo is not easy. The best the writer has to offer is that vertigo is that feeling of confusion which results from contradictory perceptions of our position or motion in space. It may be produced by any pathological condition located in one of the organs of orientation that prompts it to render false perceptions of our position or motion in space, contradicting thereby the remaining ones which continue to give us true perceptions. The organs of orientation referred to are: (1) the eyes; (2) the ears, or more exactly the semi-circular canals and the two sacs in the vestibule of the inner ear; (3) the joints, muscles and viscera.

Let us consider the last-mentioned first. You are, no doubt, aware of the fact that the normal individual is able to stand erect without swaying, walk about without wabbling, and do both in the dark without the assistance of vision quite as well as in the light and with the aid of vision. Furthermore, you are aware of the fact that the normal individual is able to do these things so well with the eyes closed because he has learned that a definite amount of pressure is exerted on the soles of the feet, on the knees and hip-joints, while standing, because of the weight of the body; that with every exertion, whether it be one of position, erect or otherwise, or one of precise movements, there is a definite amount of contraction in numerous co-ordinated muscles which are brought into play

* This is a second paper prepared on the same subject. The first was written eleven years ago and incorporated with others in a small volume entitled, "Labyrinth Papers." The present paper, though it contains many things presented in the earlier one, is in no sense of the word a revision of the former. There is nothing in the present one that denies anything presented earlier. The main difference in the two papers is that the earlier one was prepared for the specialist while the present one is intended more for the general practitioner. Besides in the present paper the attempt is made to distinguish between the symptom vertigo and the accompanying symptoms of vertigo, which was not done in the earlier one. This the writer feels is important, especially so since certain men of repute in this field have confused the two, with the result that they have been led into errors which may require some little time and effort on the part of someone to correct.

in its performance. Sensations of position and motion referable to the joints and muscles are so accurately perceived by the normal individual that he can tell at all times just where a certain number is, even to the smallest digit; besides he can tell whether it is in contact with an object, hard or soft, rough or smooth, or whether the member is free in space.

If for any reason the nervous pathways for these sensations are interrupted anywhere along their course so that the sensations fail to be perceived, or are perceived incorrectly, the patient suffers a disturbance of his sense of orientation from this particular source. Fortunately, with his remaining organs of orientation, the eyes and ears, he is able to get about with but slight difficulty. But when he closes his eyes and thereby shuts off a second organ of orientation, he is in a bad plight indeed; his gait becomes so staggering that he is liable to fall. This is just what happens in the case of sclerosis of the posterior columns of the spinal cord (tabes dorsalis) when the eyes are closed.

In tabes the pathologic changes in the posterior columns of the cord take place so gradually that the patient becomes accommodated to the increasing loss. The same accommodation occurs in the case of the gradual loss of function in the inner ear from a hyperplastic labyrinthitis, when the patient suffers little or no vertigo as compared with that intense form experienced in the case of rapid destruction of the inner ear from an abscess. What might have happened so far as the symptom of vertigo is concerned, were the spinal lesion one of rapid development, is purely speculative. The meagerness of clinical observations and experimentations afford us but little information.

Pertaining to the subject of vertigo of muscle and joint origin, one experiment is hereby presented: A cap is placed on the experimenter's head to which is attached a few feet of cord, at the distal end of which is fastened a weight which is allowed to revolve rapidly about the head for a half minute or more. When the outfit is removed the subject reports the sensation of levitation, besides the feeling of tortional motion of the body in the direction opposite to that taken by the weight. In so far as this sensation is a false perception, contrary to facts, the subject has experienced vertigo of the kinesthetic form. Because the subject does not happen to suffer so unpleasantly from the kinesthetic form of vertigo as

he does from aural vertigo produced by experimental irritation of the semi-circular canals, does not alter the fact that he has experienced vertigo in the exact sense that the writer described the symptom in the earlier part of the paper. We should not confound vertigo with its accompanying phenomena. Vertigo, as has been described, is that feeling of confusion which results from contradictory perceptions of our position or motion in space. It is purely subjective. The objective manifestation is equilibrium disturbance, the nature of which bears a definite relationship to the character of the subjective falsification. The nausea, vomiting, pallor of face, clammy skin, etc., are accompanying reflexes produced by the same experiment that caused the vertigo, but are not vertigo *per se*. The intensity of the accompanying symptoms of vertigo should not be accepted as an infallible index of the intensity of the vertigo proper. The accompanying symptoms of vertigo may vary in intensity in different individuals with the same degree of vertigo experimentally produced after the same manner. Again, the intensity of the accompanying symptoms of vertigo may vary on different occasions in the same individual manifesting the same degree of vertigo. The tendency after repeated experiments is for the unpleasant accompanying symptoms to gradually grow less intensive, while the vertigo remains more or less constant. The vertigo also grows less, but not at so rapid a rate as the accompanying symptoms. This is true of all forms of vertigo.

The eye, by reason of certain pathologic changes, tends to falsify our perceptions coming from that important organ of orientation far oftener than one would be inclined to believe, judging by the slight attention paid to the subject of vertigo by the average text-book author. Ocular vertigo is more common, and hence better understood than the kinesthetic form; while vertigo of aural origin is most common and the best understood of all.

Let us consider briefly some of the conditions that may be responsible for ocular vertigo. Every eye specialist has met with one or more cases of refraction trouble, where among the several symptoms complained of was vertigo. Vertigo or dizziness is not an uncommon symptom experienced by patients when they begin to wear bifocals, the more so if they happen to be poorly adjusted. Frequently upon having them adjusted properly the vertigo disappears. The vertigo in this instance may be due to double vision

or to an imbalance in the refraction of the two eyes, producing anisometropia, when, for instance, the glasses happen to be so poorly adjusted that the visual axis of one passes through the upper or distant glass, while that of the fellow-eye passes through the lower segment, or near glass. We occasionally find individuals wearing glasses thus out of plumb who do not complain of any unpleasant symptoms, while others complain bitterly of the contradictory visual impression (vertigo); but more especially do they complain of the sickness of the stomach (accompanying symptom of vertigo). The effect of putting an excessively plus or convex glass before the eyes produces an incorrect interpretation of external objects. The magnification produces the effect of nearness; the blurring of outlines the contrary effect of increased distance. Both are false perceptions—hence vertigo. The confusion is even more pronounced when the excessive plus glass is put before one eye only. More or less dizziness is complained of when a cyclopegic, like atropin, is put in one eye and not in the other, the more so if the patient has a fair degree of hyperopia, for reasons similar to those just cited. The same effect is produced by a sudden paralysis of the ciliary muscle from any other cause. The vertigo and the accompanying disagreeable symptoms produced by the conditions and experiments thus far cited is nothing as compared with those produced by extraocular disturbances. Take a case of sudden paralysis of one of the extrinsic eye muscles; for instance, a paralysis of the external rectus of the right eye; the result is a converging strabismus with diplopia. The patient sees every object double and does not know which to accept as the real one. He has vertigo and is disorientated —may even lose his balance and walk broad and uncertain; while the accompanying symptoms are even more distressing.

The writer was privileged to study a case of total ophthalmoplegia, a condition where the intrinsic muscle (ciliary) together with all the extrinsic muscles were paralyzed. The condition developed over night, which may be considered rapid. The vertigo, together with the accompanying symptoms of nausea and vomiting, were so pronounced that the patient, a physician, attributed the ailment to ptomaine poisoning.

The vertigo that results from a paralysis of one or more of the extraocular eye muscles disappears as soon as the patient learns to suppress the false image perceived by squinting the eye. He

learns to close the affected eye and accepts only the image perceived by the normal one. With some individuals it may be a matter of only a few minutes: with others several days.

Paralysis of an extraocular muscle produces vertigo, as mentioned above, but the vertigo is not so lasting as in the case of paresis, for the reason that in paralysis the diplopia is a fixed quantity to which the patient sooner or later becomes accustomed; whereas in paresis the patient no sooner learns to accommodate himself to one amount of diplopia when it changes to another. It is ever shifting in degree. The best that he can do when he desires binocular single vision is to turn his head to that position least likely to produce diplopia; that is, toward the paretic muscle in order that his eyes may be turned in the opposite direction.

Paresis of a vertically acting muscle produces a greater degree of vertigo than paresis of a horizontally acting one. A very severe case of the kind lasting over a period of several years was reported by the writer at a meeting of the Pennsylvania State Society eight years ago. The writer is inclined to believe that the vertigo resulting from a paresis of one of the oblique muscles is even more intensive, but of that he is still uncertain because of the lack of sufficient observation.

Vertigo of aural origin, as stated earlier, is the most common form and also the best understood. Aural vertigo presents certain definite characteristics. It is always associated with nystagmus of a definite kind, *i. e.,* rhythmic in contradistinction to the oscillatory.

Involuntary to and fro movements of the eyes are spoken of as nystagmus. If the two movements occur with equal rapidity, as in the case of a pendulum, it is called oscillatory or undulatory; on the other hand, if the two movements occur with unequal rapidity, that is, jerky, it is called rhythmic.

At this juncture the writer will review a few observations on nystagmus pertinent to the subject of the paper:

(1) Nystagmus is an involuntary to and fro movement of the eyes.

(2) Nystagmus may be rhythmic, that is, jerky in character; or it may be oscillatory, that is, not jerky, as described above.

(3) Nystagmus, whether of the rhythmic or the oscillatory form, may occur in any one of the three principal planes—horizontal, frontal (rotary), or vertical (sagittal).

(4) Rhythmic nystagmus occurs in a definite direction (up or down), (right or left), and is so designated according to the direction of the quicker movement, but not so in the case of the oscillatory form, for the reason previously stated.

(5) Although it has been stated that nystagmus is an *involuntary* to and fro movement of the eyes, nevertheless, in the case of the oscillatory form it is possible for the patient so afflicted to inhibit somewhat, by a strong exertion of the will, the nystagmus, so far as the frequency and the length of the excursions are concerned. The power of inhibition is possible for a brief period (a few seconds) only and is comparable with the inhibition that the patient with paralysis agitans is able to accomplish when he attempts to cease the pill-rolling movements of the fingers.

(6) Rhythmic nystagmus, when of aural origin, unlike that of the oscillatory form, cannot be inhibited even by the most intensive efforts on the part of the patient.

(7) Oscillatory nystagmus, so far as we know, is always of ocular origin and is associated with some defect of vision, especially central.

(8) Rhythmic nystagmus of aural origin is the most intensive when the patient looks toward his nystagmus; for instance, if the nystagmus designated by the quicker movement happens to be to the right, the nystagmus is most intensive when looking to the right; less intensive when looking straight ahead, and least intensive when looking to the left (away from his nystagmus).

(9) Rhythmic nystagmus may occur physiologically. It can be elicited in normal individuals, with very few exceptions. For instance, when a normal individual looks very intensively in any particular direction he will manifest a rhythmic nystagmus in that direction. When he looks to the extreme right he will manifest more or less nystagmus to the right; it may be purely horizontal or purely rotary, or it may be a mixture of these two forms; when he looks to the extreme left he will manifest nystagmus to the left. So far as vertical nystagmus is concerned, authorities generally do not believe that it ever occurs physiologically. They look upon vertical nystagmus even though it may occur only in the extreme position of the eyes as always of pathologic significance. The writer's opinion, based upon a very large number of observations, is that vertical nystagmus does occur in rare instances as a purely

physiological manifestation. Vertical nystagmus, when found in normal individuals, is less intensive and more transitory than either the horizontal or rotary form, and is prone to be overlooked.

(10) When nystagmus, apparently physiologic, is excessive it is generally found that the patient is suffering from neurasthenia or is one of the neurasthenic type.

(11) It is the play of the physiologic nystagmus that prompts a spontaneous nystagmus of aural origin to behave as it does when the patient looks first in one direction and then in the opposite. Take a case, for instance, where, on account of an irritative lesion in the right inner ear or eighth nerve there is manifested a rhythmic nystagmus to the right which, for convenience, will hereafter be referred to as spontaneous nystagmus. When the patient looks toward the right, it will be observed that the nystagmus is increased over that which is manifested when he looks straight ahead, and when he looks to the left it is decreased. The reason for the accentuation of the nystagmus when the patient looks to the right is easily comprehended when we consider that a normal individual will manifest some slight degree of physiologic nystagmus to the right when he looks to the right. In the presence of an irritative condition in the right ear sufficient to produce a spontaneous nystagmus to the right, it follows that when the patient looks to the right the result is the sum of two influences: (1) spontaneous nystagmus to the right, (2) the physiologic nystagmus to the right; whereas when he looks to the left these two influences work contrarily and the lesser one is subtracted from the greater. If the spontaneous element directed to the right is greater than the physiologic directed to the left, the result will be a nystagmus to the right when he looks to the left, but of less intensity than occurs when he looks to the right. On the other hand, if the spontaneous element directed to the right is less intensive than the physiologic to the left, then the difference will be in favor of the physiologic; the patient, therefore, will manifest a slight degree of nystagmus to the left when he looks to the left. It was because they did not allow full value for the physiologic element that led the earlier investigators to their false conclusions concerning the clinical manifestations in the first stage of labyrinthine suppuration. Their belief as expressed in their writings and teachings was that the nys-

tagmus is directed toward the affected ear during the first stage of inner ear suppuration, a thing which could never happen.

The subject of nystagmus has by no means been exhausted but enough of the subject has been covered for our present need. It is impossible to dissociate aural vertigo and rhythmic nystagmus, as has been attempted by at least one author. Vertigo is a subjective symptom, a feeling of confusion concerning which we are dependent entirely upon the patient for a description. It is, therefore, a less dependable manifestation of disease of the inner ear, eighth nerve, or its pathways, than nystagmus, which is an objective sign outside of the patient's control, which can be readily recognized and studied by the examiner.

The writer has never observed aural vertigo without rhythmic nystagmus. On the contrary, he has repeatedly observed a mild grade of nystagmus of aural origin experimentally produced by galvanism without vertigo. Again he has observed mild grades of rhythmic nystagmus from pathologic involvement of the vestibular branch of the eighth nerve, without vertigo.

Aural vertigo is characteristic in that the patient experiences the false sensation of rotation in one of the three planes, most often the frontal. The sensation is referred to by the patient as that of (1) external objects rotating before his eyes in the frontal plane; or (2) the sensation as though he himself was falling in that plane (sidewise); (3) combination of these two sensations. Other sensations have been recorded but they are less exact and less consistent. Aural vertigo persists when the eyes are closed; ocular vertigo, on the other hand, ceases when the eyes are closed. Aural vertigo is aggravated by movement of the head, and is ameliorated by the patient assuming a position of rest, especially a recumbent position.

Ocular vertigo is not affected by the station of the patient or body movements so long as the eyes are kept closed. Ocular vertigo is aggravated by any movement of the eyes, if it happens to be a case of vertigo from a palsy of one of the extraocular muscles, and is relieved by the patient looking away from his palsied muscle.

Aural vertigo and vertigo from an ocular palsy have certain points in common. First, the vertigo from these two causes may be so much alike that from the patient's description alone one could not tell which of the two forms it is. Second, nystagmus is present in both. Third, both the nystagmus and the vertigo are aggravated

when the patient looks in a particular direction, and ameliorates or ceases altogether when he looks in the opposite direction. Fortunately there are so many distinguishing features that one should not be at a loss to determine what form of vertigo is present in a given case, providing he makes intelligent use of the many methods of differentiation available.

The accompanying symptoms of vertigo aside from the characteristic nystagmus and equilibrium disturbance already referred to are past-pointing of different members of the body, body reaction movements which, when present, tell us that the pathways to the cerebellum are intact. The accompanying subjective sensations of nausea, vomiting, pallor and clammy sweat, which the average patient includes as a part of his description of vertigo, too often accepted by the examiner as an index of the intensity of the real vertigo, are, perhaps, more pronounced in aural than in any other form of vertigo.

The numerous possible lesions and their location, responsible for aural vertigo, is too large a subject for discussion at this time. My object has been to describe the symptom of vertigo, to tell of the different forms, point out some of the distinguishing features of each, and emphasize the difference between vertigo and its accompanying phenomena. Now and then cases of pseudo-vertigo are seen that have been wrongly diagnosed and treated as bona fide vertigo. The subject of vertigo is a large one and full of interest to one who attempts a study of it, but like most other subjects there still remains much to be learned.

Don't forget the O., O. & L. Society Meeting. The time, June 21st, 22nd, 23rd. The place, Fairfax Room, New Willard Hotel, Washington, D. C.

SALIVARY CALCULI, OR SIALOLITHIASIS.

William M. Muncy, M. D.,

Providence, R. I.

SALIVARY CALCULI may be found within the duct or alveoli of any of the salivary glands. They generally consist of a mass of one of the phosphates or carbonates of lime, though magnesia, soda. iron, etc., also are found within their composition. This accounts for their yellowish-white or dirty gray appearance. The inorganic substances surround a nucleus of organic material estimated at 25 per cent. by volume, which occupying the center is without doubt the exciting cause of their formation. This nucleus may be a hair, a piece of straw, the tail-like end of a chestnut shell, a tooth brush bristle or a mass of leptothrix that has entered one of the ducts; or, what is more common, a plug of bacteria and dead cells.

The concretions may be one or multiple, and vary in size from small, rough, sand-like particles to that of an egg. The average weight of these calculi is about fifteen grams. They are more often found in the ducts than in the glands themselves, and the submaxillary is most often the source of trouble. This is due, no doubt, to the fact that it secretes mucin, which other glands do not. The duct of the partoid (Stensen's) and sometimes the gland itself are second in frequency, while involvement of the sublingual gland is the least frequent of all.

Calculi are found more often in males, and while most cases are found in adults, a few have been reported among children, one being as young as three weeks, in which case the stone was considered to be of congenital origin. Hutchinson, in 1887, made the first comprehensive study of this condition, and I doubt if over three hundred and fifty cases have been reported since that time. Not infrequently it has been mistaken for an abscess of one of the lymph glands, ranula, malignant tumor or dermoid cyst. A thorough history and examination would have prevented this error.

Though the clinical picture varies somewhat with the location and size of the stone, there are certain symptoms indicative of the disease. As eating or even the sight or smell of food brings on an increase of salivation, at this time there is great discomfort and increased swelling in the gland, which often causes such intense pain as to be designated "salivary colic." Sour foods, particularly, aggravate this condition. If the stone is not large enough to stop the secretions there will be a sensation of fullness, followed by the feeling of a jet of liquid ejected into the mouth. This is due to the sudden flow of saliva by pressure, forcing a passage around the stone. There is often dysphagia and difficulty in talking, due to the swelling, and sometimes when a number of glands are stopped at the same time a dryness of the throat and tongue is present.

Examination will generally show a swelling unilaterally confined to the anatomical localities of one or more of the salivary glands or their ducts. If Stensen's duct is involved, the papilla situated at the inner side of the cheek, opposite the second upper molar, will generally appear red and oedematous, and pressure upon the gland or along its duct will cause a quantity of viscid, cloudy mucus to make its appearance. In the inflammatory state the thickened walls may be palpated as a cord, extending backward toward the gland. This is in a line extending from a point midway between the margin of the upper lip and the ala nasi, backward to the lobule of the ear.

If Wharton's duct (the duct of the submaxillary) is involved, the summit of a small papilla at the side of the frenum linguae is red and swollen, with generally a discharge appearing on slight pressure along the duct, which runs backward on the floor of the mouth, parallel with the tongue. It must be remembered that the main duct of the sublingual (duct of Bartholin) is situated in this same papilla, though sometimes it enters the duct of Wharton just prior to its exit. Besides the duct of Bartholin, the sublingual has situated at the side of the tongue some eight to twenty small ducts (ducts of Rivinus) that empty into the mouth direct.

After inspection and bimanual palpation for the swellings in the angle of the jaw and to the side of the tongue, the ducts should be sounded. With a lachrymal probe or filiform bougie, gently pass backward until an obstruction is reached and a positive gritting

sound or feeling is elicited, showing the location of the stone. If it is not large and is situated near the mouth of the duct, a lachrymal puncta dilator may be inserted into the duct to be followed by the smallest size Hartmann middle-ear blunt curette, to dislodge the calculus. In one instance I inserted a Hoffman blunt ear-punch through the dilated duct. If this is not successful and the stone is near the opening of the duct, it may be slit down to the obstruction. However, if further back, it is easier under local anaesthesia to cut down upon the stone through the mucous membrane.

When there are a number of calculi, and especially when located within the gland substance, the condition is much more complicated. The submaxillary and sublingual are generally removed; the former through a skin-incision under the angle of the jaw and the latter through an opening in the mouth. The parotid, due to the facial nerve situated within its alveoli, is left intact, and at most an incision made into the gland to free the calculi.

I shall take the liberty of presenting to this Society a recent case that offers an excellent picture of this condition and the difficulties met with when both the ducts and the glands are involved.

Mr. H. A. V., age 51; occupation, school teacher; called at my office September 14, 1920. I will pass over the family and past history as there was nothing of importance elicited.

For three weeks there had been a gradually increasing difficulty in swallowing, which was especially aggravated when eating. Speech had been interfered with, due to a swelling in the mouth and side of the tongue. The ever-inquisitive tongue felt a number of sharp points along the side of the mouth. There was a swelling the size of a tangerine below the angle of the jaw on the left side. Oral inspection showed a marked induration and swelling confined to the left side of the frenum linguae, filling the space between the tongue and inner side of the lower jaw. This was very sensitive to touch, and on palpation a marked increase of saliva was apparent. The papilla of the submaxillary was swollen and small beads of grayish mucus were exuding from it. A number of small spicules seemed to be forcing their way through the membrane of the sublingual gland. I cut down upon one and removed a rough granular piece about the size of a split pea, which seemed to be so incorporated in the glandular tissue that some of it was adherent to the calculus. This caused not only considerable

pain but also a fair amount of hemorrhage. Further back, where Wharton's duct dips into the gland, the mass was much larger and more indurated, which led one to suspect more trouble in this region.

Failing to insert the smallest eye-probe into the swollen duct, I first dilated the opening with the head of a cambric needle, followed by a lachrymal puncta dilator. This released a large amount of saliva, some of which was collected, and the report from the laboratory showed gram positive diplobacilli and gram negative cocci. In other words no pus-producing organism was present. The insertion of a lachrymal probe elicited a number of small calculi along the duct, but further back a large mass was discovered.

As the patient had undergone all the examination acceptable at one sitting, and especially as he was in fear of not being able to continue his regular vocation of teaching, I discontinued the examination and proceeded to give further relief by fifteen minutes of high frequency current applied to the swellings within the mouth, and also externally over the glands. This reduced them at least a third and the patient was made more comfortable. I have found that in the treatment of ranula and swellings of like character, high frequency treatments have produced most satisfactory results. Although I knew I could not remove large calculi by such procedure, still I could give considerable relief while the proper method of handling the case could be decided upon. If there had existed only one large stone I should have cut down upon it and removed it; but as the sublingual was apparently filled with small concretions, with larger ones in Wharton's duct, and as I suspected that the submaxillary was filled with the same substance, I decided to mark time until I was certain what was the best thing to do.

The next day the patient reported the discharge in the mouth contained many small pieces that felt like sand. The swelling was as marked as ever. High frequency current was administered, and then by palpation a considerable amount of viscid mucus and numerous small particles of grit were pressed out of the duct. As manipulation increased the pain and secondary swelling this was discontinued, and only the high frequency, followed by gentle probing of Wharton's duct, resorted to for a few days. Meanwhile he was carrying on his regular vocation of teaching.

One of my colleagues, Dr. D. R. McNally, suggested the use

of the X-ray and Kromayer lamp to relieve the congestion of the glands and to lessen their secretions, as X-ray is known to have such an effect on gland tissue.

On September 23rd the first X-ray treatment was given. This consisted of one-half an erythema skin-dose (2 Hampsons), 5 milliamperes of current passing through the tube and a parallel spark of 8 inches. An aluminum filter was used of 3 mm. and a skin focus of 8 inches. A Coolidge Universal Type Tube (broad focus) was used for the treatment. This was directed in a line through the submaxillary gland under the jaw to the tongue. A gradual diminution of all symptoms followed this treatment. Every three days a Kromayer lamp treatment of from 2 to 3 minutes was given over the swellings in the mouth. Five days after the X-ray treatment, due to the diminished swelling of the duct the large stone before mentioned in Wharton's duct passed forward so that it could be easily moved about with a lachrymal probe. Enlarging the duct with a lachrymal dilator, I easily removed the stone with a Hoffman blunt ear-punch. It was an inch in length and one-quarter of an inch in thickness. Twelve days after the first X-ray treatment as small particles continued to discharge another X-ray exposure was made. (3 Hampson skin-units. Machine settings as stated above).

From that time the case made a rapid recovery.

There is no question but the last method of treatment lessened the glandular secretion and diminished the congestion in the ducts, making it possible for the smaller concretions to be discharged. Whether it had any action upon the calcareous masses themselves is a question.

23 Waterman Street.

Don't forget the O., O. & L. Society Meeting. The time, June 21st, 22nd, 23rd. The place, Fairfax Room, New Willard Hotel, Washington, D. C.

MONOLATERAL PTOSIS, SUBSEQUENT TOTAL OPHTHALMOPLEGIA AND AMAUROSIS, CONSEQUENT TO INTRACRANIAL TUMOR.

William D. Rowland, M.D.,

Boston, Mass.

THE subject of this report came November 18, 1920, complaining of right-side ptosis, reduced vision, and orbital pain.

Mrs. I., 57 years old, American, housewife (husband, common laborer), residing in Eastern Massachusetts. Father died at 27, following return from the Civil War; cause not determined. Mother is living at 80, but very deaf. One half-brother and four (all) children living and well.

First complaint by the patient was noticed about two years ago, November, 1918, when the right upper lid did not fully open, becoming more marked gradually and fully paralyzed (levator) in one year. Vision gradually was lost, becoming rapid during the last three months, and almost total loss during attack of orbital pain one month ago. This pain arose, within a few days, from a throbbing to an extremely severe pain back of the right eye, worse in reclining position and relieved by several attacks of nose-bleeding (coincident with a fit of rage related later). Some numbness over the right upper face and lids became manifest. The first medical advice sought was in June (May ?), 1920; had been cared for in two dispensaries and one private office; had gallstone operation in 1917, with uneventful recovery; last previous eye-care was in July (June, according to dispensary record), 1920. This last record was investigated and the following facts obtained: V. R.=20/100 +75 S.=20/50+3.00 S.=No. 1 J.; all muscles paralyzed except ext. rectus; pupil dilated 1/2 and does not react. V. L.=20/70+75 S.=20/30+3.00 S. No. 1 J. Urine shows a few hyalin casts; X-ray reported right frontal sinus smaller and less radiant than left; several pyorrhetic lower incisors. The latter were removed under advice, with no eye-improvement, all upper teeth having been

removed years previously. As before, the patient discontinued treatment.

Findings.—Right eye: Complete ptosis; corrugator, frontalis, and orbicularis active and normal; bulb is fixed at 10 degrees out (external rectus has very slight action); 3 mm. of exophthalmos by instrument; no pain on pressure, and the bulb is freely movable in all directions, no pulsations elicited, tension by finger is normal; vision is reduced to faint light perception over central area; the pupil is 5 mm. and non-reacting; there is slight engorgement of conjunctival and scleral veins; the fundus looks yellowish, and all vessels are reduced in caliber slightly; arteries sclerosed; veins are irregular in caliber and slightly tortuous; the disk markings are indistinct, pale, and on level, no hemorrhages.

Left eye: The lid-action is normal; the bulb is restricted in outward (35 deg.) and upward (35 deg.) rotation; vision=20/50 +75 S.=20/30; pupil is 2 1/2 mm. and reacts normally; media clear and fundus similar to right, except disk is less pale; field taken by hand was relatively normal, and color perception accurate.

The patient is easily fatigued, excitable, and perspires on slight exertion. The blood pressure is 190-120, with flexible radials; pulse 120 and regular; palpation over the carotids elicits more pronounced throbbing on the right side.

A general physical examination made on November 24th reported no organic lesion of the heart or vascular system; no aneurysm to explain right carotid hyperpulsation or throbbing orbital pain followed by nose-bleed, given under past history. The urine showed a slight albumen trace, a few hyalin casts, and sp. gr. 1012. Blood: Wassermann was negative. White count was 18,600 (differential not done through error). X-ray reported the sella obliterated, and sphenoids encroached upon. Up to this time I was considering some orbital involvement at the apex, interfering first with enervation to the levator, then involving other branches of the III, the IV, VI and V, etc., but the last X-ray findings of sellar and sphenoidal involvement leads to an extra-orbital and intracranial source of the pressure interference.

At this juncture of the analytic procedure in trying to arrive at a diagnosis, the husband called; previously Mrs. I. had come in company with a neighbor woman. He gave the following interesting side-light history: For 6-7 years, antedating the first eye-com-

plaint by 4-5 years, Mrs. I. became fault-finding, abusive, had fits of anger and attacked members of her family. Her sleep was much disturbed. The husband was referred to a neuro-psychiatrist to whom he related this story, and on December 2nd Mrs. I. was examined.

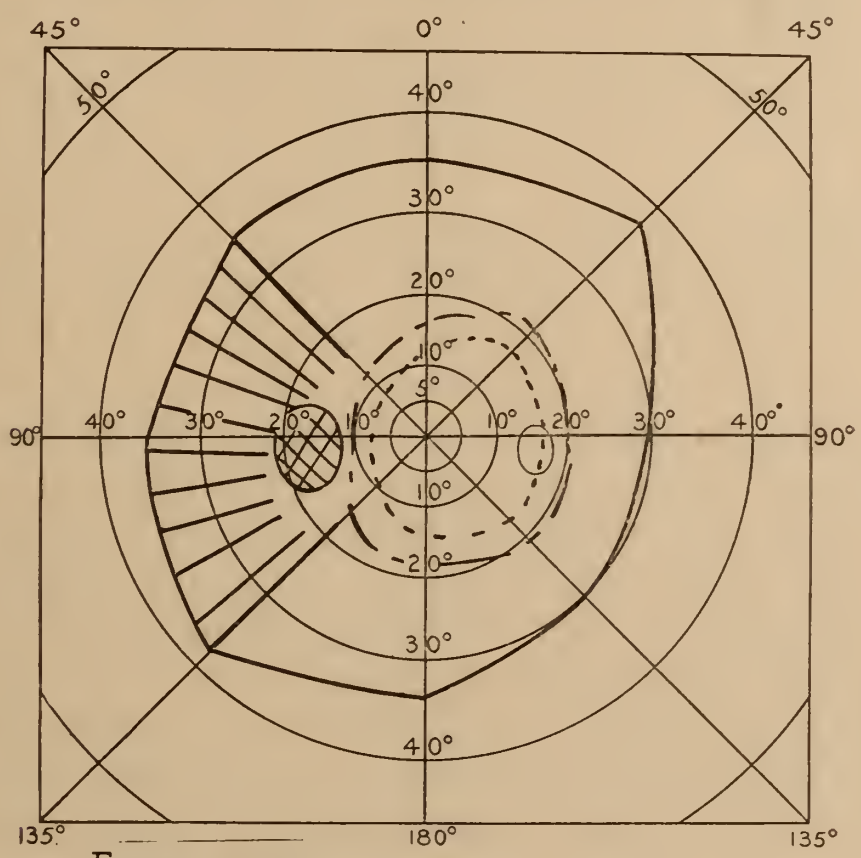
Dr. Solomon Fuller reports: "The examination of Mrs. I. leads to the conclusion of existence of an intracranial growth. This conclusion is based upon the following findings: Headache, increased somnolence, degenerative change in the cranial nerves, I, II, III, IV, V, VI (disturbance of smell and taste, blindness, immobile right globe, patheticus palsy), tenderness on percussion over the right frontal, temporal, and mastoid regions, and Witzelsucht. In addition I elicit the information that there has been a very marked change in disposition. Where formerly a very amiable person, is now very irascible, suspicious, fault-finding and not only has threatened violence to members of her household but has actually assaulted her husband. It was during a fit of rage that she had a nose-bleed and suddenly lost her sight. We have thus a psychosis as well as a tumor, the former probably resulting from the latter. Prognosis, it seems to me, is very grave."

On this date also the ears, nose and throat were gone over. The ear canals and membrana tympani were negative; both nares were partly occluded by a bilateral thickening of the cartilaginous septum and a septal ridge on the right; oro- and hypo-pharynx were negative, but the epi-pharynx was unsuccessfully inspected for a possible bleeding point from which daily tinges could be hawked, and previous bleeding came.

Having an intracranial growth to contend with in explanation of our patient's symptoms, a consideration for best care led us to refer her to Dr. Harvey Cushing, and she accordingly entered Peter Bent Brigham Hospital, Boston. Under date of December 13th, the following letter reports his opinion: "I regret to say that Mrs. I. has a large eroding tumor in the region of the pituitary body. It has largely deteriorated the base of the sella, and projects into the sphenoidal cells. In addition, it has involved the nerves to the right, as you are aware, and has grown upward sufficiently to cause very marked mental change, of which Mr. I. has told me. She is adverse to having any operative procedure, and the only reason why I should carry out one is with the hope of possible relief of

discomforts, for her trigeminal nerve is undoubtedly involved. It would be possible to stop the pain, but I fear impossible to stop the growth, though recourse might be had to X-ray treatments. I do not believe, in view of this rather gloomy prognosis, that either Mr. I. or his wife care to have anything undertaken, though she, of course, could hardly be consulted in the matter. If she has been showing homicidal tendencies, I fear that she may have to be committed * * *"

Mrs. C. I., V. L.=20/50+.75 S.=20/30.



Form ———
Blue-red - — -
Green - - - -
Indistinct Scotoma for form.
3.mm.finder at 16.5 cm,white light.

Since it was apparent that marked sellar changes had occurred, although the patient had not given a history of characteristic eye-changes resulting from such lesion, and that upon the first visit the hand-taken field did not lead to any such conclusion, I requested the patient to return for another observation, which she accordingly did on December 20th. The accompanying field taken on the Peter Hand Campimeter with 3 mm. finders in white light show reduced fields for form and colors, enlarged blind spot, and a

quarter-sector indistinct scotoma for form in the temporal field. Each fundus, at this time, showed a 1/4 disk-size yellowish plaque on the retina, located similarly just under the superior temporal artery and about 1 1/2 disk-diameters from the macula. This was not previously observed (it might have been overlooked) although the fundi were carefully scrutinized.

In the *Transactions of the American Medical Association* for 1920, *Section of Ophthalmology*, W. L. Benedict, of Rochester, Minn. (Mayo), under the title of, "Early Diagnosis of Pituitary Tumor with Ocular Phenomena," discusses thirty-two selected cases. He says: "Ocular changes constitute the chief symptom in a large number of pituitary tumors, and are often our only means of identifying the condition. * * * The frequent absence of constitutional disorders, and the negative findings on examination of the central nervous system, except for ocular disorders, place the case squarely in the hands of the ophthalmologist. The slow loss of visual acuity, the gradual progressive narrowing of the visual field, as described by Josephson, in a manner that is largely characteristic of the disease, and the appearance of the nerve-head in the fundus constitute the only measurable factors that are concerned in the progress of the lesion, and furnishes the basis for diagnosis, treatment, and prognosis. * * * The characteristic field is determined by the size and position of the tumor. * * * The cases fall naturally into three groups. 1. Those with bitemporal hemianopsia; 2. those with homonymous hemianopsia, and 3. those with no light perception in one eye and with temporal defect in the other. * * * Of the most important ocular changes brought on by pituitary tumor is the appearance of the nerve-head as seen with the ophthalmoscope. A peculiar waxy pallor of the nerve without shrinkage is seen so often it has become practically a diagnostic feature. The pallor is not due to atrophy of the optic nerve, unless vision has been destroyed almost entirely for a considerable length of time, and it is not accompanied by an atrophic excavation of the disk, such as is seen in atrophy of tabes and toxic neuritis. * * * The appearance of pallor of the disk may not be noticeable for years after the onset of the loss of vision. * * * The decision on operation should properly rest on the changes in the field and the appearance of the disks, since the indications for operation disappear with the development

of optic atrophy that makes restoration of visual function impossible."

The pathology in this case, now in retrospect, seems to have become operative several years ago, and no record is available to give us any clue as to what ocular changes presented early. History now available leads to the possible conclusion that mental symptoms antedated any eye-disturbance, and this latter showed itself first as a ptosis. If this is correct, then the tumor probably did not originate in the pituitary, but in the vicinity, and gradually grew to invade and destroy that gland. So far as pituitary causation in this case in reference to the disk and field changes is concerned, we could place it in Class 3 field defect, and pallor with atrophy in the right eye, pallor in the left.

This case will be kept in mind, so that future autopsy evidence, if possible, may be obtained to explain this interesting chain of evidence.

Simpson Splints in Submucous Resection.—*Penna. Med. Jour.*, April, 1921. E. W. Collins, Phila. Laryng. Soc., decries the use of these splints after this operation on four grounds: (1) Pressure necrosis; (2) Edema of mucosa from poor lymphatic drainage and from congestion; (3) Haematoma from poor drainage (above the area supported by the splints); (4) Infection of traumatized tissue due to retention of nasal secretion and poor drainage. Control of hemorrhage is usually not necessary; light packing is sufficient for coaptation. Skillern uses a light packing saturated with tincture of benzoin, which packing comes out easily. Embery packs with gauze soaked in vaseline. Coates has tried to do without packing but without success. Walter Roberts, Weider and Coates use the divided Simpson splint, one-half above the other. Margaret Butler has been successful without packing.

D. M.

THE DISEASED TONSIL AS A CAUSE OF DISEASE.

Stephen H. Blodgett, M.D.,

Boston, Mass.

DURING the past few years it has frequently been called to the attention of the medical profession that in many cases of chronic nephritis the kidney disturbance was secondary to an infection of the tonsil or teeth, and the removal of the source of infection would cause an improvement in the action of the kidney. Recently the causative relation between pancreatic diabetes and infected tonsils has also been noted.*

For this reason it has seemed that the brief report of two recent cases might not be without interest to the readers of the O., O. and L. Journal.

Last September I saw a patient giving the following history: Had always been very well and strong until about three years ago, except that for years he had had two swollen tonsils which would exude a white cheesy substance, and at times one would discharge a considerable amount of a very bad-smelling, thick pus. About three years ago he noticed some dyspnoea on hurrying upstairs or uphill. About a year ago he had "rheumatism" so severely that he consulted a physician who, after an examination, told him he also had nephritis.

His "rheumatism" improved, and he kept at work until finally dyspnoea compelled him again to consult a physician. He came to see me in September, saying he could not go up an ordinary flight of stairs without stopping for breath. He had a dry, hacking cough which had persisted for some months, felt "sort of mean," and found it hard to "get into" his work. His tongue was coated white. Blood pressure 210-120. Pulse pressure 90. Heart dilated, apex half-inch outside the nipple line; valves "O. K."

---

* Diabetes, Pancreatic, Caused by Infection of the Tonsil, S. H. Blodgett, M.D., *Pennsylvania Medical Journal,* March 1921.

Urine Analysis:

Specific gravity 1025.
Urea 3.5 per cent.
Indoxyl, normal.
Albumen, slightest possible trace.
Sediment, considerable.
Hyaline and granular casts.
Tubule cells, bladder cells.

The throat department reported that he had two badly diseased cryptic tonsils, from one of which nearly a teaspoonful of pus was squeezed out.

My diagnosis was a chronic septic nephritis, with the source of infection located in the tonsils.

He was given the following diet: Any cereal, any fruit, milk, cream, coffee, or tea, any vegetable except rhubarb or tomato, no vinegar, only a *very* small amount of animal fibre (meat) three times a week, at least one egg and not over three eggs daily. (He weighs 200 pounds, and was doing hard muscular work each day.)

He was advised very strongly to have his tonsils removed at once, but was unable just then to give up the necessary time. In October he went to a hospital and they were removed under ether. Nine days afterward he had a severe hemorrhage which did not entirely cease for twenty-four hours. On December 28th, two months after the tonsil operation, he reported that he noticed an improvement in his ability to go upstairs without becoming short of breath. Blood pressure 190-130. Pulse pressure 60. Cough gone.

Urine Analysis:

Specific gravity 1027.
Urea 3.4 per cent.
Indoxyl, normal.
Albumen, slightest possible trace.
Sediment, small amount.
Few hyaline casts.
Few small round cells (tubule (?) cells), bladder cells.

A few weeks previously he had lifted a heavy piece of iron pipe, causing a lame back, which was now improving.

February 8th he reported that he was feeling very well. His

tongue was clean, dyspnoea only on moderately severe exertion. Blood pressure 170-120. Pulse pressure 50.

Urine Analysis:

Specific gravity 1022.
Urea 2.4 per cent.
Indoxyl normal.
Albumen, very slight trace.
Sediment, small in amount.
Rare hyaline casts.
Few calcic oxalic crystals.

April 1st he reported that he was feeling about the same; he was attending to his work with less discomfort from dyspnoea than formerly. Blood pressure 185-130. Pulse pressure 55.

Urine Analysis:

Specific gravity 1024.
Urea 2.6 per cent.
Indoxyl, normal.
Albumen, trace.
Sediment, small.
Few squamous cells.

His diet, begun when he first consulted me in September, has not been changed.

This man's kidneys and heart will never be normal, but I feel that he has enough kidney tissue and heart muscle to run his machinery for many years, now that the source of infection is removed. I wish to add here that the change in this patient's condition has been much more rapid than is usual in such cases, for frequently it will be from six months to a year after the source of infection is removed before we see very much improvement in the kidney function.

During the past fifteen years I have had under my care a considerable number of nephritic cases where it appeared that the cause of the nephritis was a septic condition of the tonsil or teeth, and removal of the source of the infection has almost invariably had the effect of at least making quiescent the previous progressive kidney lesion, and in some cases a very decided improvement, even, has taken place.

Another patient just recently placed under my care was a girl fourteen years old, with sugar in the urine. She gave the

following history: Quite suddenly last November she became very thirsty; this persisted for a few days and then the thirst was less, but still she was more thirsty than usual. Soon she had another very thirsty spell; later an improvement. About two weeks ago she had another one, which she said began coincident with a tonsillitis. She then consulted a physician, who discovered sugar in the urine, placed her on a diet, and referred her to me.

I found a girl fairly developed, weight 92 pounds—which was 10 pounds less than when she was weighed the last time (one year before). The throat department reported that she had cryptic tonsils and adenoids. The urine showed 1 per cent. sugar, considerable acetone. Blood sugar 250. She was placed on a moderately restricted diet, and in three days the sugar disappeared from the urine, the acetone had increased, and her weight had increased about one pound. She was allowed a saccharine dessert and a little more fresh fruit. The urine remained sugar-free, acetone decreased. Blood sugar 190. She was given an anaesthetic and the tonsils and adenoids removed. She ran a temperature from 101 to 103 degrees for three days following the operation, although she felt very well. She ate less on account of the soreness of her throat. Six days after the operation she weighed 3 pounds less than just previous to it. Her urine was still sugar-free, the acetone had disappeared, her blood sugar was 170. When discharged, nearly three weeks after her admission to the hospital, she was feeling very well, her urine was free from sugar and acetone, the blood sugar 117, and in addition to this her weight had increased until it had reached the point where it was when she was admitted for treatment.

Under date of March 26th she reports that she is feeling perfectly well, weighs 99 pounds, and the urine has been sugar free.

I am reporting this case to again call attention to the close relation between diabetes (pancreatic) and infections of the tonsils, as my experience has been that many cases of diabetes of the pancreatic form appear suddenly, closely following an infection of the tonsil, and invariably in this form of diabetes an infection of the tonsil is followed at once by the reappearance of sugar in the urine (although the patient is taking less carbohydrate than previous to the "sore throat"), and after the recovery from the sore throat we find a permanently lowered carbohydrate tolerance.

The conclusions are perfectly obvious:

1. If you have a case of septic nephritis, look for a source of infection, usually teeth or tonsils (about "50—50"). If you have a case of the pancreatic form of diabetes, have the tonsils examined for a source of infection.

2. If you find one of the above sources of infection, remove it.

520 Beacon Street.

ABSTRACTS.

X-ray Treatment of Tonsils and Adenoids.—W. D. Witherbee, M.D., *Amer. Jour. of Roentgenology,* Jan., 1921. The paper is based upon the results of a series of sixty cases, ranging in age from sixteen months to fifty years. Some of the cases had but a single dose of X-ray, while others had divided ones, but none received as much X-ray as is used in the treatment of ringworm of the scalp. Careful histories were made of all cases and they reported weekly for observation. Blood counts were made and the contents of the crypts were examined on cultures and the colonies counted. Drawings were made to compare the appearances of the changes in the tonsil.

The effect of the X-ray was to decrease the size of the tonsil and to evacuate the crypts. The author called attention to the fact that pathologists concede that the increase in the size of the tonsil is due to an increase in the lymphoid tissue. After operation for the removal of tonsils which had been rayed, it was found by microscopical examination that it was the lymphoid cells which had undergone atrophy. Thirty-two out of thirty-six cases examined for pathological bacteria four weeks after one massive dose of X-ray, were negative.

The author illustrated his technic and showed a board so constructed that the patient was held in a position which would allow the rays to pass through the tonsil on one side and be directed so as to pass through the tonsil on the opposite side. The proper protection to the patient was also described. The dose was stated in various factors, but none of these equalled more than one skin unit of filtered rays through three millimeters of aluminum. A

warning was mentioned to those not familiar with all the factors entering into the dose of the X-ray treatment, not to attempt the use of these rays before they thoroughly understood the apparatus and the method of measuring the dose accurately.

In conclusion the author said, "It would seem probable that X-ray treatment should be indicated in cases of diseased tonsils and infratonsillar lymph nodes, associated with endocarditis, pericarditis and hemophilia. Also in cases following tonsillectomy, in subjects over six or eight years of age and especially in adults where there still remains a considerable amount of pathogenic bacteria in the infratonsillar lymph nodes and crypts, the X-ray will prove of value. Walter C. Barker, M.D.

Hemorrhage from the Ear.—*The Laryngoscope,* January, 1921. In a report read before the Otological Section, New York Academy of Medicine, May 14, 1920, Harold M. Hays reports an interesting case of persistent bleeding following a paracentesis for an acute otitis media. The incision had been extended into Schrapnell's membrane. Dr. Hays and Dr. Friesner, who later saw the case in consultation with Dr. Hays, came to the conclusion that it came from a dehiscence in the bone of a misplaced jugular bulb. After a considerable time it ceased under the use of indirect compression. (It would be interesting to know if there was some underlying factor in the blood itself that prevented the clotting which usually takes place). W. G. S., Jr.

Oral and Sinus Surgery in the Forward-Inclined Sitting Posture, Under N2 O O Anesthesia.—In a paper read before the Joint Meeting of the Medical Society of the State of Pennsylvania, the Interstate Association of Anesthetists and the National Research Society, Pittsburgh Session, October 7, 1920, the forward-inclined sitting posture was recommended for oral and sinus surgery by Ira O. Denman, of Toledo, O. This posture was devised about ten years ago by Dr. Denman, and with the assistance of Dr. McKesson the present technique of position and anesthetic

were worked out. In his opinion the forward-inclined sitting posture is the most natural, convenient and safest position for oral and sinus surgery. No fatalities are recorded for a period of nine and a half years.—*Pennsylvania Medical Journal,* March, 1921.

W. G. S., JR.

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Otology and Laryngology

Vol. XXV JUNE, 1921 No. 6

Editorial

PROGRAM

THIRTY-FOURTH ANNUAL SESSION

OF THE O., O. & L. SOCIETY

THE NEW WILLARD HOTEL, WASHINGTON, D. C.

JUNE 20TH, 21ST AND 22ND

Monday, June 20, 1921

FIRST SESSION 9:00 A. M., FAIRFAX ROOM

Call to Order.
Adoption of the Program.
Appointment of Committees.
(a) Attendance.
(b) Nominations
(c) The Press.
Business Session:
1. Reports of Officers.
(a) Report of Secretary.
(b) Report of Treasurer.
(c) Report of Necrologist.
2. Report of Censors. Election of New Members.
3. Report of Committees.
4. Unfinished Business.
5. New Business.
President's Address.
Appointment of the Committee on the President's Address.

PAPERS

1. "Pemphigus of the Conjunctiva." Report of a case.
By Dr. W. D. Rowland.....Boston, Mass.
Discussion by Dr. W. J. Blackburn.....Dayton, Ohio
Dr. C. L. Rumsey.....Baltimore, Md.
2. "Ocular Complications."
By Dr. Henry L. Gowens, Jr..... ....Philadelphia, Pa.
Discussion by Dr. Leroy Thompson.....Chicago, Ill.
3. "Lateral Sinus Thrombosis, with Report of an Interesting Case."
By Dr. George J. Alexander.....Philadelphia, Pa.
Discussion by Dr. Dean W. Myers.....Ann Arbor, Mich.
Dr. W. H. Phillips .....Cleveland, Ohio
4. "Dressings and After-Care Following Intranasal Surgery."
By Dr. I. O. Denman.....Toledo, Ohio
Discussion by Dr. J. Ivimey Dowling.....Albany, N. Y.
5. "A Modification of the Briggs Tendon Tucking Operation."
By Dr. Wm. McLean.....New York City, N. Y.
Discussion by Dr. G. DeWayne Hallett, New York City, N. Y.
Dr. G. W. McDowell...New York City, N. Y.

6. "A Few Nose and Throat Problems."
By Dr. J. J. McDermott.....St. Joseph, Mich.
Discussion by Dr. Richard H. Street.....Chicago, Ill.
Dr. Charles H. Hubbard.....Chester, Pa.
7. "Hemostasis in Tonsillectomy."
By Dr. R. C. Eckardt.....Brooklyn, N. Y.
Discussion by Dr. John R. Honiss.....Rochester, N. Y.
Dr. F. C. Sage.....Waterloo, Ia.

Monday, June 20, 1921

SECOND SESSION, 2:00 P. M., FAIRFAX ROOM

8. "Microtia, with Report of a Case."
By Dr. E. S. Hallinger.....Haddon Heights, N. J.
Discussion by Dr. L. E. Hetrick.....New York City, N. Y.
9. "A Report of Two Ear Cases."
By Dr. I. L. Moyer.....Columbia, Pa.
Discussion by Dr. George C. Webster, Jr.....Chester, Pa.
10. "A Mastoid Case with Interesting Complications."
By Dr. T. W. Stephens.....Pittsburgh, Pa.
Discussion by Dr. W. C. Cook .....Pittsburgh, Pa.
Dr. Fred C. Sage.....Waterloo, Iowa
11. "Prophylaxis of Mastoid Infection."
By Dr. G. D. Arndt.....Mt. Vernon, Ohio
Discussion by Dr. J. A. Ferree .....Columbus, Ohio
Dr. H. S. Weaver.....Philadelphia, Pa.
12. "The New Conception of Labyrinth Physiology." By Invitation.
By Dr. Frank Novak...Cook County Hospital, Chicago, Ill.
Discussion by Dr. G. W. Mackenzie.....Philadelphia, Pa.
Dr. Burton Hazeltine .....Chicago, Ill.

This paper discusses the investigation of Prof. C. R. Griffith and advances an original theory of Labyrinth Function. Dr. Novak will report his clinical study of labyrinth cases in Cook County Hospital.

13. "Bleeding for the Relief of Intra-Ocular Hemorrhage." Preliminary Report.
By Dr. J. Ivimey Dowling .....Albany, N. Y.
Discussion by Dr. George Laidlaw ..New York City, N. Y.
Dr. J. T. Simonson....New York City, N. Y.
14. "The Stereo-Campimeter and Its Use." Presentation of a New Instrument for Study of Central Field Defects.
By Dr. R. I. Lloyd .....Brooklyn, N. Y.
Discussion By Dr. G. DeWayne Hallett
New York City, N. Y.
Dr. H. D. Schenck .....Brooklyn, N. Y.
Dr. G. J. Palen .....Philadelphia, Pa.
15. "Some Unusual Types of Ocular Infection."
By Dr. Frank O. Nagle.....Philadelphia, Pa.
Discussion by Dr. W. W. Speakman.....Philadelphia, Pa.
16. "Carcinoma of the Ethmoid."
By Dr. Ralph W. Hulett.....Champaign, Ill.
Discussion by Dr. Herbert L. Northrop...Philadelphia, Pa.
Dr. J. V. F. Clay.....Philadelphia, Pa.
17. "Electrolysis for Moles, Warts, etc. Addenda."
By Dr. James A. Campbell.....St. Louis, Mo.
Discussion by Dr. J. R. McCleary.....Cincinnati, Ohio

18. "Xerosis of the Conjunctiva."
By Dr. C. L. Rumsey.....Baltimore, Md.
Discussion by Dr. Alva Sowers.....Chicago, Ill.

Tuesday, June 21, 1921

THIRD SESSION, 9:00 A. M., FAIRFAX ROOM

Business Session.
Report of Committees:
(a) Attendance.
(b) Nominations.
(c) The Press.
(d) President's Address.
(e) Special Committee.
Unfinished Business.
New Business.
Election of Officers.

PAPERS

19. "The Relation of the Endocrine Glands to Conditions Affecting the Respiratory Passages."
By Dr. Thomas L. Shearer.....Baltimore, Md.
Discussion by Dr. Augustus Korndoerfer, Jr., Philadelphia, Pa.
Dr. John B. Garrison.....New York, N. Y.

20. "Relation of Posterior End Hypertrophies to Ear Conditions."
By Dr. Wm. M. Muncy.....Providence, R. I.
Discussion by Dr. D. A. Williams .....Providence, R. I.
Dr G. J. Alexander .....Philadelphia, Pa.

21. "Report of Additional Cases of Neurolabyrinthitis."
By Dr. Wm. G. Shemeley, Jr.....Philadelphia, Pa.
Discussion by Dr. D. A. Williams.....Providence, R. I.
Dr. R. A. Eckardt.....Brooklyn, N. Y.

22. "Illustrated Lecture on Plastic Surgery of the Face and Mouth." By Invitation.
By Dr. R. P. McGee.....Pittsburgh, Pa.
Discussion by Dr. H. L. Northrop.....Philadelphia, Pa.

This lecture is illustrated with lantern slides of original drawings showing details of the work of the Maxillofacial sections, both of the British and American Army. This includes repair of facial injuries such as loss of the nose and eyelids, and new methods of epithelializing mucous surfaces of the mouth, nose, eyes, etc.

23. "Tumor of the Orbit in a Child of Ten Years; Removal by Electro-thermal Coagulation."
By Dr. Joseph V. F. Clay and Dr. Walter C. Barker, Philadelphia, Pa.
Discussion by Dr. H. L. Northrop.....Philadelphia, Pa.

24. "An Interesting Case of Retinitis Albuminurica Complicating Pregnancy."
By Dr. Walter M. Yost .....Rochester, Pa.
Discussion by Dr. F. O. Nagle.....Philadelphia, Pa.

25. "Synergism, a Co-operative Action of the Extraocular Muscles." Continued.
By Dr. G. A. Suffa.....Boston, Mass.
Discussion by Dr. I. O. Denman.....Toledo, Ohio

Tuesday, June 21, 1921

FOURTH SESSION, 2:00 P. M., FAIRFAX ROOM.

26. "Some Modifications in the Resection of the Nasal Septum."
By Dr. M. B. Coffman.....Richmond, Va.
Discussion by Dr. Harold Foster.....New York City, N. Y.
27. "Hyperplastic Ethmoiditis: A Résumé of Literature and Observations."
By Dr. Harry M. Sage .....Columbus, Ohio
Discussion by Dr. Dean W. Myers.....Ann Arbor, Mich.
28. "Limitations of Radiograms in Diagnosis of Dental Pathology." By Invitation.
By Dr. M. J. Hubeny .....Chicago, Ill.
Discussion by Dr. E. L. Hunter .....Chicago, Ill.
29. "Cerebral Abscess."
By Dr. R. C. Cooper .....Pittsburgh, Pa.
Discussion by Dr. Charles A. Ley .....Pittsburgh, Pa.
Dr. Burton Haseltine .....Chicago, Ill.
30. "The Specialist's Practice in the Square Deal Towns." By Invitation.
By Dr. Richard Furlong .....Endicott, N. Y.
Discussion by Dr. Gilbert J. Palen.....Philadelphia, Pa.

This paper will deal with the work of the Specialist in the towns of Endicott-Johnson where practically all the medical and surgical work of the two towns is done by physicians in the employ of the Endicott-Johnson Co.

31. "Undergraduate Teaching in Otology."
By Dr. Gilbert J. Palen .....Philadelphia, Pa.
Discussion by Dr. J. V. F. Clay.....Philadelphia, Pa.
Dr. L. E. Hetrick .....New York, N. Y.
32. "Magnesium Mur. in Facial Neuralgia, with Report of a Case."
By Dr. H. S. Weaver.....Philadelphia, Pa.
Discussion by Dr. L. E. Marter.....Philadelphia, Pa.
33. "Consideration of Some of the Problems of Iritis."
By Dr. H. E. Moore.....Ambridge, Pa.
Discussion by Dr. Frank O. Nagle.....Philadelphia, Pa.
34. "Two Rare Cases of Basilar Tumors Affecting the Visual Field."
By Drs. S. B. Moon and I. D. Metzger.....Pittsburgh, Pa.
Discussion by Dr. W. H. Phillips.....Cleveland, Ohio
35. "Symmetrical Central Degeneration of the Retina; Report of a Case."
By Dr. George W. McDowell.....New York City, N. Y.
Discussion by Dr. Ralph I. Lloyd.....Brooklyn, N. Y.
36. "Some Experiences in the Treatment of Chronic Otitis Media with the Oto-Concussor."
By Dr. D. A. MacLachlan.....Detroit, Mich.
Discussion by Dr. Philip Rice.....San Francisco, Cal.
Dr. Neil Bentley .....Detroit, Mich.

Tuesday, June 21, 1921

FIFTH SESSION, 8:00 P .M., FAIRFAX ROOM

BUREAU OF ECONOMICS

BURTON HASELTINE, M.D., *Chairman*

This will be an Informal Smoker.

37. "The Need of Economic Education in the Medical Profession."
By Burton Haseltine, ...Chicago, Ill.
Discussion opened by Gilbert Palen.....Philadelphia, Pa.

Doctor Haseltine will point out the many defects under which physicians labor because of the lack of coherent opinion and systematic teaching regarding the economic phase of medical practice. He will recommend systematic instruction upon these subjects by making it a part of under-graduate curriculi, and will make constructive suggestions as to how these could be made valuable.

38. "Medical Service as a Commodity in the Industrial World."
By Frank Wieland .....Chicago, Ill.
Discussion opened by Martin Z. Westervelt
New Haven, Conn.

Doctor Wieland will show the economic loss suffered in the industrial world because of physical defects of employees. He will report upon the work of one large corporation in which this loss has been recognized and in which physical defects are regularly corrected as a business investment. He will describe in detail the work of the Medical Department of Montgomery Ward & Company which, under his direction has done more than any other large concern in the world to solve the medico-economic problem.

39. "Practical Results of Business Education Among Physicians."
By Alvin W. LaForge .....Chicago, Ill.
Discussion opened by Seymour B. Moon....Pittsburgh, Pa.

Doctor LaForge will report upon results already apparent from the discussion of the economic question among physicians. He will make constructive suggestions as to how sound business principles can be applied in the work of the individual doctor.

Wednesday, June 22, 1921

SIXTH SESSION, 9:00 A. M.

40. "Sphenoid Case."
By Dr. H. R. Wynn .....Ann Arbor, Mich.
Discussion by Dr. Dean W. Myers .....Ann Arbor, Mich.
41. "Hay Fever."
By Dr. A. D. Williams.....Huntsburgh, Ohio
Discussion by Dr. F. B. MacMullen.....Detroit, Mich.
42. "The Mercurials in Aural Practice."
By Dr. H. P. Bellows.....Boston, Mass.
Discussion by Dr. Geo. W. McDowell.New York City, N. Y.
Dr. H. D. Schenck.....Brooklyn, N. Y.
43. "Some Functional Hearing Tests."
By Dr. Dudley A. Williams .....Providence, R. I.
Discussion by Dr. Wm. M. Muncy.....Providence, R. I.
Dr. W. G. Shemeley.....Philadelphia, Pa.
Dr. Albert W. Greene.....Philadelphia, Pa.
44. "Advantages of the Laboratory in Diseases of the Eye, Ear, Nose and Throat." By Invitation.
By Dr. John G. Wurtz.....Pittsburgh, Pa.
Discussion by Dr. S. B. Moon.....Pittsburgh, Pa.
Dr. I. D. Metzger .....Pittsburgh, Pa.
Dr. R. C. Cooper .....Pittsburgh, Pa.

45. "An Illuminated Perimeter with Campimeter Features."
By Drs. C. E. Ferree and G. Rand.....Bryn Mawr, Pa.
Discussion by Dr. R. I. Lloyd.....Brooklyn, N. Y.
46. "The Variable Factors which Influence the Determination of the Color Fields."
By Drs. C. E. Ferree and G. Rand.....Bryn Mawr, Pa.
Discussion by Dr. Wm. McLean .....New York City, N. Y.
Dr. Geo. A. Shepard...New York City, N. Y.
47. "Myopia."
By Dr. J. W. Stitzel.....Hollidaysburg, Pa.
Discussion by Dr. George A. Shepard
New York City, N. Y.
48. "The Treatment of Tuberculosis of the Larynx."
By Dr. George B. Rice .....Boston, Mass.
Discussion by Dr. Alfred Lewy .....Chicago, Ill.
49. "Post-operative Fusion after the Age of Thirty-five."
By Dr. G. E. G. Norton .....New York City, N. Y.
Discussion by Dr. G. A. Shepard .....New York City, N. Y.

Wednesday, June 22, 1921

2:00 P. M.

Reception by President and Mrs. Harding at the White House.

At 4:00 P. M. the O., O. & L. Society will meet in conjunction with the American Institute.

Further details will be found in the Institute Program.

THE VARIABLE FACTORS WHICH INFLUENCE THE DETERMINATION OF THE COLOR FIELDS.

C. E. FERREE AND G. RAND,

Bryn Mawr College.

Synopsis

THE variable factors which influence the apparent limits of color sensitivity are the wave-length and purity of the stimulus, the intensity of the stimulus and the visual angle, length of exposure of the eye, the method of exposure (moving or stationary stimulus), accuracy and steadiness of fixation, the intensity of the general illumination of the retina and its state of adaptation, breadth of pupil, and the brightness of the pre-exposure and surrounding field. The most important of these from the standpoint of the office and clinic are the intensity of the stimulus, the brightness of the pre-exposure and surrounding field, the intensity of the general illumination, and the accuracy and steadiness of fixation.

By a sufficiently wide variation of intensity alone the fields

of color sensitivity may be made to have almost any breadth within the field of vision, to differ radically in shape and even to change or reverse their order of ranking as to breadth. The limits for pigment stimuli may be either interlacing or concentric in the order from widest to narrowest of red, blue, and green; or of blue, red and green, depending upon the intensity of light falling on the perimeter arm. Without great precision in the control of intensity, it is obvious that reproducibility of result cannot be obtained and little significance can be attached to extent or shape of field, to order of ranking as to breadth of field, or to any variations from time to time or from person to person in these important features.

An Illuminated Perimeter with Campimeter Features.

C. E. Ferree and G. Rand.

THIS instrument was devised in response to a request for a feasible means of illuminating the perimeter arm with light of a good intensity and quality, so that every point on the arm in any meridian in which it may be placed shall receive equal intensities of light. Intensity and quality of illumination, however, are only two of the factors which influence the results of the perimetric determination. In devising the instrument to be described in this paper, it has been the purpose of the writers to provide a control also of other factors which are of importance to the work of the office and clinic.

TO THE MEMBERS OF THE HOMŒOPATHIC O., O. & L. SOCIETY

WE are looking forward to the greatest meeting ever held by The American Institute. Never, in the history of the organization, has our Society been so prominently identified and so conspicuously recognized by our National Government.

We are meeting at Washington, a city which, as befits our

National Capitol, is probably the most beautiful city in the country. The Capitol Building and the White House are buildings every American should see, and the beautiful Library of Congress Building is probably unsurpassed for richness and beauty. A visit to the Smithsonian Institution is an event long to be remembered. The surrounding country has beautiful roads and is very accessible either by private auto or by sightseeing trips.

A trip down the Potomac to Mt. Vernon should be taken by everyone. Bull Run Battlefield and Gettysburg are easily reached.

A steamer may be taken to Old Point Comfort, Norfolk, Newport News and the Virginia Beaches. Baltimore with the Johns Hopkins University is within easy reach.

On Wednesday afternoon President and Mrs. Harding will give a reception to the members of the Institute and their friends. In addition, Mrs. Harding will give a luncheon for the ladies who are attending.

After noting these features, you understand why we *know* that the Washington meeting will be the greatest ever held by our Society. From the scientific standpoint, nothing has been left undone. The fact that President G. W. Mackenzie, Dowling, McDowell, Hazeltine, Suffa, McLean, George B. Rice, Denman, Shearer, Bellows, Alexander, Myers, Palen and many others are going to prepare papers will itself guarantee a program of the highest standard.

Dr. Frank Novak, of Cook County Hospital, Chicago, has been invited to present some extensive research work on the "Physiology of the Labyrinth." Dr. R. P. McGee has been invited to give an illustrated lecture on "Plastic Surgery of the Face and Mouth," as carried on in the War Zone. Drs. Ferree and Rand will present the results of extensive research work on an "Illuminated Perimeter with Campimeter Features," and "The Variable Factors which Influence the Determination of the Color Fields."

Come and Bring Your Family!

Give the Kiddies the Trip of Their Life Time!

Very cordially,

Neil Bentley, *Secretary.*

MELANOTIC SARCOMA.*

THOMAS L. SHEARER, M.B., C.M., EDINBURGH, F.A.C.P.

Baltimore, Md.

ON being requested by Dr. Mackenzie to prepare a paper for this meeting of southern physicians it occurred to me that some subject of interest to the general practitioner would be more attractive than a technical one written for the members of the Eye, Ear and Throat Society exclusively. With this in mind I desire to present to you for your consideration one of the forms of malignancy under the name of melano-sarcoma.

Miss G. L. W., aet. 51 years, who had been desperately ill in Galveston, Texas, was brought to Baltimore and placed under my care at the Woman's Hospital, being admitted on August 12, 1919, and discharged on August 27, 1919, from that institution. The family history was that of heart disease on the father's side and was tubercular on the mother's side; there was no history of malignancy. The patient's general health was always excellent with the exception of some anaemia as a child and the exanthemata of childhood; she had no typhoid, malaria, pneumonia or rheumatism. During her youth she suffered slightly from nasal catarrh and she had much dental work done.

On examination, the patient was lying on her back (in bed), the lower limbs drawn up and the arms crossed over the abdomen; she is very tall for a woman—six feet in height; greatly emaciated: pale and weak after her journey. The throat is negative as are also the heart and lungs; no dyspnoea or edema. There are no symptoms of disturbed digestion and the bowels are regular. The genito-urinary system is negative. Menstrual: The onset was at the age of 13 years with much dysmenorrhoea, the flow lasting from 5 to 7 days; irregular until 18 years old. Then there was amenorrhoea for five years. After that she was regular until the age of 48 years, when the menopause occurred.

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*Read at the meeting of the Southern Homœopathic Medical Association, Richmond, Va., November 18, 1920.

The onset of her ailment was rather curious, for, while seated one day in her garden, about October, 1917, she felt a sharp stinging sensation in a pigmented mole on the back of her neck below the left ear. She felt that some insect had stung her at this spot and she quite naturally rubbed the mole freely, thus adding to the degree of irritation of it. The mole was previously the size of a ten-cent piece and had been noticed since infancy. In January, 1918, it began to grow, projecting outwards like the broad end of a pencil, and, by March, 1918, the growth was so rapid that she consulted a physician for the first time, and he immediately excised it. Healing was rapid and perfect.

In May, 1918, multiple pigmented moles began to appear on the body and limbs. One at the angle of the left jaw was treated with radium during July, 1919, and four of these treatments reduced it materially. She had one X-ray treatment on June 23, 1919. About April, 1919, the mass at the angle of the left jaw was growing so rapidly and causing such great inconvenience that an operation was performed; with the growth removed was included some muscular tissue. The pathological report on this growth was melano-sarcoma. Recurrence very soon followed and the patient refused any further operation, but radium was again tried in July, 1919. During June, 1919, the patient felt severe pain in the left leg following a strain, and crouched every time she tried to bear her weight upon it, a fracture no doubt having occurred pathologically. A similar lesion involving the right upper arm on July 1st and the left upper arm on July 28th followed, each with a slight amount of exertion.

Since the April, 1919, operation the patient has had multiple pains all over the body and limbs; she has been in bed most of the time and losing weight rapidly. There are at present no masses that seem to be very active. She is propped up in bed and has very little pain while quiet, but signs of severe pain on the slightest motion are evident, particularly on the left side of the body. There is no respiratory distress. Scattered widely over the neck, face, body—front and back— arms, and to a less extent over the legs, are multiple, circumscribed, freely movable masses, varying from the size of a shot to a hickory nut; these are situated in the muscle and fascia and do not affect the skin. None are painful on pressure and a relatively small number are pigmented. Situated in the skin

of the body and arms are many small pigmented moles and a few warts.

The head is of normal size and shape. There are a few small growths along the edge of the scalp and on the face. There is a large indurated area at the angle of the jaw; several scars on the right and left side of the face from excision of former growths. No definite localized growths can be felt in the bones, but the clavicles, tibiae and fibulae are roughened. The left humerus is enlarged in its upper third, with some bowing in this region and can scarcely be moved by its own effort. Crepitus can be distinctly made out at the site of the enlargement and the entire left arm is swollen throughout its length; this arm is larger than the right one. Both knees and ankles are slightly swollen and appear very large on account of the emaciation of the soft parts. The spine is tender on palpation, but there is no deformity. The glands of the neck and the inguinal region are enlarged; the axillary ones cannot be felt. Examination of the eyes shows cloudy disks and quite full; the vessels are sclerotic; marked pigmentation in both retinae—especially about the margin of the disk.

The blood analysis gives 3,200,000 red cells, 24,000 white cells and the haemoglobin 55 per cent. The differential count is as follows:

Neutrophilies	84 per cent.
Small mononuclears	10 per cent.
Large mononuclears	2 per cent.
Eosinophiles	1 per cent.
Transitional	2 per cent.
Nucleated red cells	0 per cent.

Smears showed good color for individual cells; the platelets not reduced. The temperature varied from 97.6 to 100; pulse from 100 to 120.

The X-Ray Examination—Both shoulders revealed extensive bone-destruction in the upper third of the humerus near the nutrient artery, with new bone-formation and pathological fractures. The right hip is probably negative; the left femur at the upper third of its shaft-wall shows marked bone-destruction, with new bone-formation and a pathological fracture. In the abdomen there is a shadow in the pelvic plate probably due to a soft tissue tumor. The

lungs are essentially negative to any metastases. The impression conveyed to one is that we have to deal with a case of sarcomatosis.

The patient left the hospital on August 27th; at that date she seemed to be going down hill rapidly; very restless, uncomfortable, sleeping poorly. Complained of pains in the arms and left leg and hip. On the Thursday preceding her death she moved the left leg to straighten it out and fractured it again; on the next Tuesday, September 9th, she developed pulmonary edema and passed into a state of coma, terminating life that evening.

This case brings up again the much-debated question, are malignant growths derived from irritation of a pigmented mole or nevus, and which in the past have been considered sarcomas, really carcinomatous in nature? If you will remember, the pathological report, based on an examination of an excised growth from this patient, was melano-sarcoma. Ormsby, in his textbook on skin diseases, says: "The majority, if not all malignant pigmented growths arising from moles and nevi and which have been considered in the past sarcomas are in fact carcinomas." McCallum states that there are three origins of pigmented moles: 1st, They arise from the epidermis; 2nd, from mesodermal origin, such as (a) young connective tissue cells, (b) from proliferation of lymphatics, (c) from endothelium and the perithelium of blood-vessels; 3rd, from specially characterized cells—chromatophore (Ribbert). However, Unna studied moles in young children and infants and was able to demonstrate the connection between the cells which make up the mole and the epidermis covering it. He holds that the epidermal down growths become gradually "snared off" so that in the adult no connection is seen between the structure of the mole and the epithelium. Scheuber has lately confirmed these observations, and these two investigators are, therefore, of the opinion that malignant pigmented growths arising from moles are not melano-sarcomata but melano-carcinomata.

Gilchrist, of Baltimore, made similar researches with a small, deeply pigmented mole removed from a child 21 months old, and showed how the collections of epithelioid cells which go to make up the structure of a mole were originally derived from the epidermis, namely, by detachment of collections of epithelial cells and by the constricting off of the lower portions by the interpapillary processes. Since the epithelioid cells which make up the structure of the

moles are of epithelial origin, any malignant growth springing from these cells should be regarded as of a carcinomatous nature.

Carcinomata, round-and spindle-celled sarcomata, are practically always medullary in origin; they are rapidly growing tumors, spreading from a central point, expanding in all directions and sweeping through and destroying the cortex; the cortex is never swollen, but is eaten through and destroyed before it can expand (Baetjer, F. H.).

Frankel has described two types of secondary bone metastasis, osteoclastic and osteoplastic. The osteoclastic form is characterized by marked lacunar absorption and destruction of bone, causing an extreme porosis of osseous tissue. The osteoplastic variety is marked also by lacunar absorption, but there is a pronounced thickening of bone due to collection of malignant cells and secondary calcification around the malignant process. These two types are frequently found in the same bone. The osteoclastic form is characterized in the roentgenogram by an extreme decrease in density, the bone having a honey-combed appearance that is typical. The osteoplastic type appears in the roentgenogram as an irregular increase of the bone density, the bones having a chalky look without cortical or periosteal thickening.

Boggs says that spontaneous fracture is a fairly common occurrence in cases of bone metastasis and may be the first indication of its presence. According to Risley, metastasis is rare below the elbow and the knee and he explains this by the fact that death usually occurs before the process ends. Pfahler has noted that the spine is the most common site of bone metastasis, and any vertebra from the atlas to the sacrum may be involved. Moore, in Mayo's Clinics, states that, 1st, bone metastasis may result from malignancy of any organ, but the most common foci are the breast and the prostate gland; 2nd, bone metastasis is uncommon in malignancy of the thyroid; 3rd, bone metastasis and pulmonary metastasis are rarely associated; 4th, the most common symptom complained of is pain, which is fairly typical, and should be regarded as an indication for an X-ray examination. In patients over 50 years of age, pain is a common symptom of many complaints. Malignant metastasis to the spinal cord is not rare and produces pain similar to that caused by bone metastasis.

In closing, I should like to mention another point of the great-

est importance. This is the question of when to interfere with a mole and when to leave it alone. Gilchrist, who has had twenty-seven years' experience with this subject, advises as follows: If a mole is located anywhere in the body where it is exposed to friction it should be removed. If the growth is small, it is best done by electrolysis, introducing the needle well through the base of the growth. If the mole or nevus covers a larger area, as for instance, on the face, radium carefully applied offers the safest and most successful method of cure. There is nothing more dangerous than the use of the knife in the neighborhood of a nevus or pigmented mole, for they frequently recur after such a procedure and one thus incurs the risk of metastatic development. The remarkable feature of this case is the fact that the patient suffered from a severe metastasis to three of the long bones, with a pathological fracture in each of them.

Significance of Unequal Pupils.—In considering this important condition, Earl B. Brooks, Lincoln, Nebraska, considers the chief significance to lie in the fact that they are "an important symptom of a widespread and deeply seated disease." He summarizes as follows:

1. With the exclusion of eye disease and refractive errors, unequal pupils are always pathologic.

2. The width of the pupil and its reaction at any given time are the result of the constant antagonism between the contracting fibre of the third nerve, and dilating fibres of the cervical sympathetic.

3. The determination of whether or not we have to deal with an irritative or paralytic lesion will help materially in the recognition and proper interpretation of unequal pupils in any given case.

4. In contusions of the eyeball, besides the concussion, small lacerations and extravasation of blood into the iris muscles account for some of the pupil changes.

5. In head injuries, the dilated pupil corresponds to the side of increased pressure.—*Journal A. M. A.*, April 23, 1921.

W. G. S., Jr.

FOCAL INFECTIONS IN EYE DISEASES; CASE REPORTS.

George McBean, M.D.,

Chicago, Ill.

FOCAL infections of the teeth as etiologic factors in eye diseases are not new, they are merely revamped. Even the ancients knew that blindness sometimes resulted from infected teeth—I believe the Good Book says something of "An eye for an eye and a tooth for a tooth;" and our modern tongues speak of the upper canines as the eye-teeth. For many years it became unfashionable to think in terms that associated the spiritual eye with the vulgar tooth; when I was a student twenty-five years ago, I remember we always bluffed through the etiology of any disease we were not up on in examinations, as syphilis, tuberculosis, rheumatism, lead poisoning and idiopathic cases. Unfortunately in serious diseases of the eye, especially those of an inflammatory nature, most of the causes used to be idiopathic. Many eyes today are saved to useful vision through our increasing knowledge of focal infections.

Undoubtedly the work of the late Dr. Manning Fish, which received more blame than praise during his lifetime, focused the mind of the medical profession on the nasal sinuses as causes of disease in remote parts of the body. My first case in which I determined the teeth as the primary infection came to me in 1910 after having been put through the mill by a wellknown ophthalmological department store in Chicago. She had an exudative choroiditis, with numerous opacities in the vitreous, in both eyes. She had been Wassermanned, and tested for t. b. and dosed on KI, and sweated with pilocarpin, and still retained her disease. By eliminating other possible factors, I finally found nothing but infected teeth-roots: these were extracted and her trouble was arrested. The scars remained in the choroid, but there was no further progress of the disease.

The most direct case of cause and effect was in a young man

who had a tooth devitalized and crowned on Monday. Because of pain the crown was removed on Tuesday. On Wednesday it was replaced and the following day he woke up with a blind spot in one eye, due to an acute neuroretinitis (diagnosis confirmed by three other oculists). The abscessed tooth was removed and in two weeks the acute symptoms had subsided. A few months later a bridge was installed by his dentist over the infected area, with immediate recurrence of his old retinitis, not so easily controlled this time. Again an interval of two years, and this time he returned wearing a dental prothesis against my very urgent advice, and his sight was hopelessly gone.

I have had many cases of iritis with adhesions to the lens capsule, resulting from focal infections. One patient came to me almost blind in one eye, after having very good treatment along the old lines of atropin, dark room and internal medication for three months, but constantly growing worse. The X-ray showed one abscessed upper molar, which was extracted and curetted. In a week the eye was free from inflammation, the adhesions broken. Now vision is 20/40. He has had no recurrence for two years and no further symptoms.

Another case of iritis of two years' standing was referred to me by a prominent oculist to search for focal infections, with the remark that they "had all been removed and the patient must have an iritis habit." Her nose and sinuses were normal; several dead teeth had been removed, and X-ray showed no other dental infection. A very good operator had removed her tonsils, but there was a small red granulation in one tonsil fossa. There was a drop of pus under the membrane of this granulation, so it was removed—by the unfashionable galvano-cautery. In two days her eye was free from inflammation and the pupil fully dilated for the first time in two years.

A young girl suddenly became almost blind in one eye, following an acute cold in the nose. When I saw her, after several weeks, there was a large central scotoma, with only hand movements seen in the periphery of the visual field. There was a dull ache about that side of her head. The fundus was entirely negative. The pupil failed to react to direct light, but the consensual light-reaction from the other eye was normal, proving the disease to be retro-orbital. Several other consultants insisted the trouble was

hysterical, quite ignoring the well-known facts that the hysterical visual field is a contracted one and that the pupil reacts normally to light. The nose showed a marked deviation of the septum, with the middle turbinate crowded against the outer wall of the nose. This region was treated with cocain and adrenalin and the following day the vision had improved. Continued drainage of this area, which included the ethmoids and sphenoid, and finally the resection of the septum by Dr. J. F. Boone, has almost completely restored the vision to normal.

Two young university men have come to me recently because of inability to use their eyes for more than five minutes at a time. There was practically no refractive error, and the opthalmoscope showed only a slight hyperemia of the optic discs. The history in each case showed that the onset of the asthenopic symptoms closely followed their taking up swimming in the tank as their required gymnastic work. Discontinuance of swimming and a little treatment of the ethmoid has cured both cases. Both of these men swam with their noses under water most of the time.

A young woman who had had many attacks of ulceration of the cornea and who had been exhibited by one oculist before the Chicago Ophthalmological Society, continued in spite of all local treatment to have ulcers. Finally it was discovered that she had intestinal parasites of the tape-worm type. A vermifuge was given and co-incidently with the expulsion of the worms her eye disease has also been arrested. This makes me wonder whether perhaps the trachoma parasite, too, may not have its habitation in regions ordinarily not explored by oculists.

A young stenographer came to me several years ago for examination, complaining that she was in constant dread of light, and had been so for months. She was unable to go out at all without dark glasses. There was no inflammatory trouble about her eyes and the fundus findings were negative. Glasses did not help her at all, but the removal of an infected upper tooth relieved the difficulty at once, and today, after five years, she tells me she is still well.

Now as the science of ophthalmology is relearning a few forgotten facts in medicine, it will be well for the dental brethren to clean out a little dead timber, too. Every dentist who devitalizes a tooth which can be saved in any other way should be boycotted.

We must remember that abscesses form at the apices of dead teeth only, and dead teeth are those which most of the laity consider their best treated teeth, for they never ache again. A dead tooth is like a dead man—his place is not among the living and he never complains, but his continued presence will eventually corrupt the body politic. I am not prepared to say that every devitalized tooth should be extracted, but the day will come when we will no more retain a dead tooth than a dead bone anywhere else in the body. Furthermore, when an infected tooth is removed we should be quite certain that the abscess is removed with it by curette or excision. I have found many cases where abscesses have been left by careless extractors, and, of course, the patient's disease not relieved. On the other hand, indiscriminate extraction of all the teeth, as is done frequently on suspicion, without a carefully interpreted skiagram, is much to be deplored, as it puts a valuable therapeutic resource into disrepute.

Speech Defects.—M. S. Steel, Phila. Laryngol. Soc., *Penna. Med. Jour.*, April 1921. Two per cent. of all children stammer (Mons). Eight per cent. have defects of speech. Incoordinate speech leads to stammering; self-consciousness, timidity and sensitiveness are caused and are likewise aggravated by the defect. The most important years for the training of speech are the first five. The child generally begins to have trouble because he does not know how to combine the art of ideation with that of oral expression. His thoughts come rapidly and he cannot arrange them in order. He struggles to grasp a word after his mind has gone forward. Faulty use of the peripheral mechanism is responsible for faulty kinesthetic memories; this can only be corrected by the education of these mechanisms. D. M.

A CASE OF PARINAUD'S CONJUNCTIVITIS TREATED WITH RADIUM.

FRANK C. BENSON, JR., M. D.,
AND
JOSEPH V. F. CLAY, M.D., F.A.C.S.,

Philadelphia, Pa.

THE case we wish to report is one offering much of interest from a diagnostic standpoint, and also most interesting evidence of the beneficial therapeutic effects of radium. The local medicinal management of the condition was one series of discouraging events and it remained for radium to perform one of its many triumphs in a most distressing and stubborn ocular lesion.

The patient, a female, aged 72 years, had had an attack of follicular conjunctivitis in August, 1915. In this attack she was treated by the late Dr. G. W. H. Conrad, whose record of the case we have had the privilege of reviewing. From Dr. Conrad's description of the condition we must concur in the diagnosis. This attack followed surf bathing and yielded promptly to treatment. In May, 1917, she had a mild attack similar to the first. In September, 1918, she consulted us because of photophobia, lachrymation, and discharge from both eyes. At this time the palpebral conjunctiva, especially of the lower lid, presented a marked smooth, velvety, thickening. This yielded to boric acid powder massage. Ten months later, August, 1919, there was a return of symptoms in a sub-acute form, in the right eye only, the palpebral conjunctiva presenting a marked thickening, with small polypoid elevations on the bulbar portion. This attack resisted all local treatment, and in October the cornea presented a pannus. The conjunctiva about the semilunar fold became hypertrophied and thrown into folds. In January, 1920, there occurred an apparent acute exacerbation, there being a marked increase in the lachrymation, photophobia and discharge, of a mucoid character, and in addition severe aching pain through the right eye and right side of the head. Associated with these local symptoms were marked prostration, fever and enlargement of the pre-auricular and posterior cervical lymphatics. The

conjunctiva was now engorged and thickened to such an extent that the patient was unable to raise the upper lid. Eversion of the upper lid was exceedingly difficult owing to the tremendous thickening of the conjunctiva, which presented cobbled-like elevations, varying in size, and of a yellowish red color. The bulbar conjunctiva was equally involved, and at the semilunar fold a polypus-like mass presented. The cornea, while clear, appeared buried in a velvet-like cushion of conjunctiva. The iris was normal, the pupil reacting readily. A spicule lenticular opacity was noted, otherwise the ophthalmoscopic findings were negative.

Local applications seemed to have no influence upon the condition, or in relieving the distressing subjective symptoms. During this time the left eye remained absolutely free.

A section of the hypertrophied conjunctiva was removed from the lower lid near the globe and submitted to Dr. S. W. Sappington for microscopical study. Four sections were made, and the report states that each section showed identical conditions, purely lymphoid tissue. The tissue was of the same form as ordinary lymph follicles, with peripheral concentration of small lymphocytes and central paler germ centers, but the greater part of the sections showed a diffuse monotonous spread of lymphocytes of the germ-center type, without any special arrangement. Capillaries with very thin walls were seen here and there among the cells and immediately beneath the surface; the capillaries were so numerous as to constitute a small network. No giant cells were seen. Necrosis and caseation were absent and there was no evidence of tuberculosis or anything to suggest tumor growth.

The differential diagnosis of the various conditions suggested by clinical manifestations and the histological study of this case is interesting and not without difficulties. Tuberculosis and trachoma are the diseases most closely suggested and the ones usually confused with Parinaud's disease. There is perhaps much to be desired in the way of evidence favoring the diagnosis of the latter condition in this case, and yet it seems to lend itself more strongly to Parinaud's than to tuberculosis or trachoma.

According to Morax the infective organism of Parinaud's disease has not been discovered, and clinical features alone are not always sufficient to make a differential diagnosis. Histological examination must determine whether the conjunctival condition is

FIG. 1. Case of Parinaud's Disease, showing thickened bulbar conjunctiva and the polyp-like mass in the semilunar fold.

FIG. 2. Showing the everted lid of same case.

one of the lymphatic glands. The diagnosis of Parinaud's disease should be reserved for those cases in which the absence of giant cells and negative results of inoculation and culture justify the elimination of tuberculosis or sporotrichosis. If the histological examination shows giant cells, it is either tuberculosis or sporotrichosis. Inoculation will differentiate tuberculosis. Culture on usual media will show the typical cultural characteristics of the S. Beurmanni. If no giant cells are found the condition must be differentiated from syphilis.

Trachoma usually attacks both eyes, while tuberculosis and Parinaud's disease are more frequently observed in one eye. Bulbar follicles are uncommon in trachoma; in Parinaud's disease they are common. Trachoma is observed at any age as is also Parinaud's disease, while tuberculosis favors youth. Trachoma results in scarring; Parinaud's disease does not produce scars.

As regards subjective symptoms, our case was unlike any of these diseases. In tuberculosis, unless it be ulcerating, there is little or no distress. Likewise in trachoma, there is little distress aside from the visual disturbance. Parinaud's disease usually presents few or no subjective symptoms. Our case was acutely disturbed by the subjective symptoms, and at no time did we observe irritation of the uveal tract until after the second application of the radium.

As regards the course of the condition, Parinaud's disease, it is claimed, tends to a spontaneous recovery within a few months. Tuberculosis is a very chronic disease lasting over a period of years. Trachoma is also chronic in its course, with at times intermissions and exacerbations until complete cicatrization occurs.

After a careful study of the clinical features, together with a consideration of the histological findings, as reported by Dr. Sappington, we concluded to apply radium, for the same action as procured in non-malignant papilloma of the urinary bladder.

While it is not within the province of a paper of this kind to go deeply into the physics of radium or the method of its application, it is necessary for us to recall certain facts connected with radium therapy to understand the results obtained in such cases as the one under consideration. Broadly speaking the rays from radium may be divided as to their penetrability and action; the alpha and beta (so-called soft rays) having but slight penetrability

and affect more especially the superficially placed tissues, resulting in inflammatory reaction, while the gamma rays (so-called hard rays) have a greater penetrability and a selective action. They seem to possess the ability to produce alterative changes in a typical cell structure, after passing through normal tissue without affecting it. It can, therefore, be readily understood that the development of a successful technic in radium therapy depends, to a great degree, upon a definite system of screenage. Different lesions and situations require that certain rays be made use of while others must be screened.

Lead, brass, silver, platinum and rubber are the materials most frequently used for this purpose. In our experimental work in treating non-malignant, hemorrhagic papilloma of the urinary bladder with radium, it was found that moderate amounts of the salt, lightly screened and used in short exposures, produced immediate inflammatory reaction. This was shown by increased hyperemia, followed by a complete stenosis of the afferent bloodvessels, as shown by a secondary anemia, and later complete ischemia and degeneration of the growth. It is probable that these histological changes occurred in this case. Fifty mgs. of radium element, screened with 0.05 mm. of silver, were used on alternating days for exposures of one hour each (two exposures of 100 mg. hrs.) until the inflammatory reaction appeared. While much larger amounts of radium and longer exposures are made use of in the treatment of new growth-formation, greater screenage is always used and it must be remembered that with even relatively small quantities, inadequately screened, serious destruction of tissue may follow even short exposures. Such inadequate screenage allows not only the escape of the alpha and beta rays, but also of the secondary (Sagnac) rays; all of which may be prevented by the use of sufficient filtering media. From the foregoing it may be seen that it was our desire to set up a change in the afferent blood-supply of this condition, at the same time stopping short of a reaction which would result in destruction of tissue sufficient to cause scar-formation.

After the second application of radium the eye became markedly injected and chemotic, the nodules appeared flattened, the cornea hazy, the iris discolored, the pupil contracted and inactive. Atropin 1 per cent. was instilled for two days with the application of cold compresses. At the end of two weeks all subjective

symptoms had entirely disappeared. At the end of four weeks the pannus had cleared and the hypertrophied follicles were gradually disappearing from the bulbar conjunctiva, receding from the limbus in a circular manner as if they were melting away.

The patient has reported to us at intervals of a month since the application of the radium, and each visit a progressive lessening of the thickened tissue has been noted. At this writing, January, 1921, the patient is perfectly comfortable; there has never been the slightest tendency to recurrence of symptoms. The lid action is now normal. The palpebral conjunctiva is still thickened but smooth and without scar. There is a small area of thickened conjunctiva upon the bulbar area to the lower temporal side. The cornea is perfectly clear and—of interest in passing—the lenticular spicule is not discoverable at this time. If the change in the lenticular spicule was the result of the action of the radium used, it must have been due to the gamma ray selective alterative action.

Since the application of the radium a simple boric acid lotion has been used morning and evening.

Microscopic Findings in a Case of Asteroid Hyalitis.—After reviewing the literature of this interesting condition and reporting a case in detail, F. H. Verhoeff, of Boston, concludes that (a) "The opacities in asteroid hyalitis consist chiefly of calcium soaps, calcium carbonate, and certain amounts of fatty or lipoid substances, in combination of various grades of stability. (b) Their formation is usually, if not always, dependent upon intraocular angiosclerosis in association with an altered condition of the blood."—*American Journal of Ophthalmology*, March, 1921.

W. G. S., Jr.

SYNDROME TRAUMATIC.

James A. Campbell, M.D., F.A.C.S.,

St. Louis, Mo.

SYNDROME TRAUMATIC is a term applied by Frankel to a sign complex affecting the anterior segment of the eye without visible lesion of any of the deeper structures. There may even be a normal fundus. But there are other complications present, such as reduction of vision to 1/20 or 1/50, with contracted field of vision, etc.

Prof. Baudry * describes a similar condition under the term hysteric spasm of the iris, with spasm or paresis of the accommodation, accompanied by a feeling of tension in and around the eye and orbit; photophobia and dazzling, the patient being unable to use the eye for any extended time without pain and discomfort; an additional characteristic symptom being a concentric contraction of the field of vision. Frankel explains it by calling it "traumatic hysteria," probably caused by irritation of the peripherial terminal twigs of the trigeminus.

This condition usually follows some slight injury of the anterior eyeball, without visible sign; and it may continue for weeks and even months. It is generally associated with distinct hysteric symptoms, and hence its name "traumatic hysteria." In other words, it is an eye-injury in a hysteric subject with a development and aggravation of the hysteric feature by the traumatism, in a person predisposed to hysteria syndrome.

This peculiar and unusual condition has its importance, not only from the annoyance it causes the patient, but also from the fact that persons so afflicted at times seek legal redress; instituting suit, claiming damages from the injury causing the trouble, with very few objective symptoms evident. They form a class most difficult to differentiate between the true and the false, and tax the oculist to honestly discriminate between simulation, dissimulation, exaggeration and downright malingering. Every one with any

*Norris & Oliver, p. 898.

extended experience will recall just such cases and see in the above description a familiar picture.

Two recent cases have brought the subject vividly to my mind. The first is a young married woman, age 36, who claimed that nine months before, while at work sewing on a bag of cement, she was struck in the left eye by a piece of cement. The eye watered and was painful for a week or more; since then she has spells of pain in the eye, has floating spots before the eye, and occasionally sees flashes of light, and it seems to affect the other eye also. She is unable to use the eye for any extended time. The vision of the right eye is normal; the left eye 15/70, with the pupil dilated and a —1.75 ax. 135=15/30. There was no external ocular congestion; pupil reacted normally. T. N. Ophthalmoscope—negative. The left eyeball was a little sensitive to pressure, according to the patient. The field of vision was contracted both in inner and outer fields.

The woman put her case in the hands of a lawyer, claiming damages on account of the symptoms present, and her inability to use the eye for work. The insurance company which covered the factory employes had their oculist examine the case. He reported nothing the matter with the eye, except that it was a case of myopic astigmatism, which when corrected by 2.25 cox 145 gave normal vision. But in a second examination made in my office, under scopolamin hydrobromate, in the presence of the insurance company's oculist, the best the patient could do was 15/30 with 1.75 cox 135. Every precaution was taken to verify the patient's answers, and I feel quite certain that there was no simulation, dissimulation or malingering.

Inasmuch as the patient positively asserted that previous to the accident the left eye was unaffected, the question which naturally arises is, was she mistaken, or was the myopic astigmatism there always, unrecognized by the patient, as is often seen; or was the astigmatism caused by the accident? The ophthalmometer proved it to be corneal. The possibility of some lenticular displacement must also be considered as a possible cause of the astigmatism. Careful examination did not show any such displacement.

The woman obtained a compromised judgment for damages.

The next case was a young woman stenographer, who had accidentally struck the right eyeball with the edge of a writing tablet some weeks before. The eye was painful at the time, and has felt

irritable ever since. Prolonged use of the eye was uncomfortable. Most careful examinations failed to show any abnormality of the outer or inner eye. To give the eye absolute rest the pupil was dilated with a weak atropia sulph. solution, with much relief to the patient.

The persistence of eye-irritation following local injury is an interesting phenomenon. While in Vienna, many years ago, I recall Prof. Jaeger discussing the subject; he said his grandmother had a slight abrasion of the cornea of one eye, by the sharp finger nail of a babe, and that eye was irritable from time to time for many years in spite of all forms of treatment.

Cultivation of a Filtrable Organism from the Nasopharyngeal Washings in Influenza.—Leo Loewe and Frederick D. Zeman, of New York, in investigating organisms which were isolated from the filtrates of nasopharyngeal washings of three cases, found these organisms in pure culture closely to resemble, morphologically, the organism found in their encephalitis series. After investigating this further they reach the following conclusions:

1. A minute, filtrable, gram negative organism has been isolated in pure culture from the nasopharyngeal washings of early cases of uncomplicated influenza.

2. A typical clinical picture and characteristic pathologic changes have been produced in rabbits by the intratracheal inoculation of these cultures. Both initial cultures and subcultures have proved pathogenic for animals.

3. The same clinical and pathologic manifestations were produced in a series of rabbits by the intratracheal inoculation of a culture kept at incubator temperature for fourteen months.

4. The infectious agent has been carried through several animal passages.

5. The organism has been recovered in pure culture from the lungs of animals suffering from experimental disease, and has been proved to be again virulent.

6. All control studies have been negative.—*Journal A. M. A.*, April 9, 1921.

W. G. S., Jr.

TREATMENT OF HAY-FEVER BY AUTOTHERAPY.

William G. Shemeley, Jr., M.D.,

Philadelphia, Pa.

HAY-FEVER is a term applied to a periodically recurring disease of the upper air-passages in certain individuals with a peculiar form of neurosis,[1] either hereditary or acquired, which makes them susceptible to the irritating effects of a protein poison from different plants. Much has been written on the subject of treatment of this very distressing condition, and the writer offers as his only excuse for presenting this paper the fact that the treatment of hay-fever by autotherapy is but little known to practitioners in general. To recommend any new method of treatment for hay-fever seems almost superfluous, yet autotherapy offers several advantages over the use of preparations of pollen extract, with no disadvantage except that which may apply to all vaccines, namely, the risk of using too large a dose, with the resulting production of a prolonged negative phase.

In reviewing the different theories as to the cause of hay-fever, one is at once impressed by the diversity of opinions, even at this late day. While practically all investigators are agreed that the disease is caused by a protein poison, the part that other factors may play as contributing agents is a subject about which there are many and varied opinions. Since the success of a particular form of treatment in any given disease depends in a large measure upon our knowledge of the cause or factors producing that disease, then we should expect the large number of different methods of treatment advocated in hay-fever to meet with but little success in the relief or cure of this distressing condition. This is indeed true, for no single known method of therapeutics has thus far proven satisfactory in a majority of the cases. By far the larger number of clinicians consider hay-fever a form of anaphylaxis, occurring in an individual susceptible to the protein poison found in certain plants or combinations of these.

If, then, a person could be desensitized to the substance to

which his anaphylaxis is due we should expect to prevent the occurrence of the condition; or having developed it we should be able to lessen the severity of the attack. The method by which this may be accomplished is uncertain. As early as 1902 W. P. Dunbar [2] published his idea as to the cause of hay-fever, and reported his results in the use of an antitoxin obtained from inoculating horses. This preparation he named "Pollentin," and used two forms. The theory was also advanced that it was possible to produce a specific antitoxin [3] by inoculating animals. Later he was able to prove definitely [4] that by proper use the antitoxin would rid patients of their disposition to hay-fever.

If these results can be proved why do we still have failures in the treatment of this disease after this method? This could be caused by (a) the use of improper protein toxin; (b) the use of a preparation which has undergone a change, making it no longer potent, and (c) the use of a preparation the protein content of which has been altered by the use of preservatives.

As a further thought upon the subject of vaccines, may the writer quote Koessler's last words: "I wish to express emphatically a word of caution. It will not be long before the commercial manufacturers of vaccines see the great advantage and benefit of this treatment. Hay-fever vaccines will be praised and advertised and put up so attractively that their use will become universal, and soon universally discredited. For pollen extract is not stable, especially not the higher dilutions. By progressing proteolysis, after three or four weeks it acquires marked toxic properties which lead to severe reactions. The solutions must, therefore, be freshly prepared every eight or ten days if these reactions are to be avoided. Whatever the method of active immunization, whatever the dosage and technic, the one sound basis that must underlie all these endeavors is that the material to be injected must be not only sterile but constantly of uniform potency if used in the same dilution. No extract of pollen can comply with this demand if it is older than three weeks."

It would seem, therefore, that if a preparation could be secured directly from each case presenting itself with hay-fever then we ought to have for use a preparation freshly prepared and containing the particular causative agent. Harold Hayes [5] reports the results of treating twelve patients with auto-serum prepared

directly from the patient's blood. The conclusion that he reaches is that the treatment proved useless.

With all this in mind the writer was led to try as an experiment a method of treatment first advocated by Duncan, which has for its basis the collection of secretions that are known to be the cause and not the result of a disease. This secretion is then placed in sterile water and by means of negative pressure the solution is drawn through a Berkfeld filter, manufactured by A. M. Thomas Co., Philadelphia, Pa. The resulting filtrates would represent the products of bacteria. Since it is reasonably certain that hay-fever has for its main cause a condition of anaphylaxis produced by a certain proteid poison, or a combination of them, then the secretion thrown off from surfaces in a state of irritation would represent the causative proteid poison, plus the secretion of the mucous membrane produced by the irritant. When freshly prepared by suspending the secretion collected from the nose in sterile water in a Berkfeld filter, the filtrate must contain the particular protein that produced the attack; this is more than can be claimed for the majority of preparations put out by the various pharmaceutical houses.

There is one advantage that the pollen extract has over the method advocated; namely, that of prophylaxis. The use of autotherapy is valueless in anticipating an attack, but the experience of those who have used this method and followed up their cases is that it produced a desensitization of the patient for the following year or more. Many patients following the treatment report but the lightest form of a return, which in the majority of cases responds favorably to the first injection of the filtrate.

Then question of dosage is an important one. The writer has profited by the experience of Duncan, Mackenzie, and others who have employed the treatment extensively, that an injection of 0.5 cc. of a dilution representing our 6x, and prepared in the same manner, using sterile water as the diluent, should represent the maximum initial dose.

Concerning the results in cases in which the treatment has been employed, the writer would state that they were at least equal to those obtained from the use of the usual pollen extract. They surpassed those of other forms of treatment of which the "Calcium

Salt Treatment," advocated by Wilson [6] and Emmerich [7] and Loew, was probably the best.

The writer does not wish to convey the impression that any intranasal condition that might serve as a predisposing factor is neglected. All cases receive, after the attack or before its development, any corrective operative work upon the nose or throat that seems necessary.

To summarize: The use of autotherapy in the treatment of hay-fever is advocated because—

1. The filtrate employed represents the identical substance that is causing the condition.

2. There can be no doubt as to the activity of the solution injected, since it is freshly prepared for each case.

3. Since the results obtained are at least equal to those secured by the use of pollen extract, and excel those of other forms of treatment, the ease with which the solution in auto-therapy may be prepared should recommend it to practitioners of medicine.

1831 Chestnut Street.

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THE VALUE OF HOMŒOPATHIC THERAPEUTICS IN EYE, EAR, NOSE AND THROAT WORK.*

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Dayton, Ohio.

THE practice of medicine has had a tendency, especially in the last ten years, to develop into a surgical specialty, and the doctor nowadays who harps too much about the value of drugs of *any* system of therapeutics is liable to be termed a little old-fashioned by those who claim to be modern medical men. The programs of our medical meetings are usually lacking in materia medica papers. This is a great mistake. We should have more of these papers, for by the lack of them we are leaving out the only legitimate excuse for our existence as a separate school of medicine.

An old saying, "All the world loves a lover," might be changed to, "All the world loves a surgeon," so rapidly are we becoming a profession of surgeons. Not that surgery is an unimportant branch of medicine, but materia medica is just as important, and perhaps much more so. The modern physician should be skilled in materia medica and diagnosis that he may know when to prescribe and when a surgeon should be called. If not thus equipped many a life may be sacrificed in trying to cure with drugs an ailment which needs prompt surgical attention. So also many a patient may be submitted to a surgical operation who might have been promptly cured by the intelligent prescription of a well-qualified specialist in internal medicine.

This is a day of specialists, and I believe rightly so. Medicine is too big a subject for one man to be proficient in all its branches.

The day of the doctor who is a specialist in the medical and surgical diseases of men, women and children, is past. There is one specialty, however, that is being sadly neglected today, namely, the specialty of internal medicine and diagnosis. To the physician who will give his attention exclusively to this subject is open the

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*Read at the meeting of the Southern Homœopathic Medical Association, Richmond, Va., November 18, 1920.

greatest field of medicine today; and those of us who are endeavoring to influence young men and women to study medicine should by all means impress this fact upon their minds.

The skepticism, almost nihilism, in regard to the value of drugs of the regular school today, should leave no doubt as to which system of therapeutics a student should choose. The following quotation from an eminent exponent of so-called regular medicine, Professor H. C. Wood, in his *Treatise on Therapeutics,* is significant: "Experience is said to be the mother of wisdom. Verily, she has been in medicine rather a blind leader of the blind, as the history of medical progress is the history of a man, groping in the darkness, finding seeming gems of truth, one after another, only in a few minutes to cast them back into a heap of forgotten baubles, that in their day had also been mistaken for verities. Narrowing our gaze of the regular profession to a few decades, what do we see? Experience teaching us that *not* to bleed a man for pneumonia is to consign him to an unopened grave, and experience teaching us that to *bleed* a man suffering with pneumonia is to consign him to a grave never opened by nature. Looking at the revolutions of the past, listening to the therapeutic babel of the present, is it a wonder that men should take refuge in nihilism, and like the lotus eaters, dream that all alike is folly, that rest and quiet and calm are the only fruitions."

When men of such standing in the regular school shall voice such utterances, is it any wonder that we see them continually on the lookout for "something new," and when that "something new" is found and tried and heralded through their medical literature, how soon it is replaced by some other new "discovery" and then the latter soon sinks into oblivion to be followed by another and another.

Homœopaths, in the light of the therapeutic nihilism of regular medicine, should we not take considerable pride in the fact that we have a scientific reason for the giving of a remedy, which reason I believe will in a comparatively short time be made so clear, as a result of research study and demonstrations now being worked out. and to be worked out in our own laboratories, that it will be evident to the laity as well as the physician?

But I am wandering a little from my subject, and yet the foregoing should be of interest to the homœopathic ophthalmologist

and otolaryngologist, because he will be a better specialist if he looks well to the use of his homœopathic remedies.

Many conditions of the eye, ear, nose and throat are the result of some systemic disturbance, and unless local treatment is supplemented by the well-chosen internal remedy results will be but temporary.

We must, of course, be proficient in diagnosis that we may know a surgical from a medical case. No one should expect to cure a stuffy nose with Merc. vivus, the cause of which is a badly deflected septum. That is a surgical case, and yet your surgical procedure may be more quickly cleared up should you afterward employ the well-indicated remedy. No one expects to cure a mastoid abscess with Hepar sulphur, but a properly operated mastoid will clear up more quickly if Hepar sulph. or other indicated remedies are prescribed following the operation. Indeed, hepar or capsicum, or Kali mur., or belladonna may aid you in forestalling a mastoid abscess.

Do not forget that Calcarea sulph. 3x or 6x is an invaluable remedy in suppurative frontal sinusitis. I do not mean that in many cases surgical procedure may not be indicated.

Don't forget Aurum met., silicea, phosphorus, arsenicum, chelidonium, staphysagria, etc., in maxillary sinusitis.

Remember, Ammon. carb., baptisia, mercurius, apis, nitric acid in septic pharyngitis. Also in *chronic pharyngitis* phytolacca, hydrastis, Kali bich., Kali mur., graphites, Merc. dulc. and phosphorus.

In laryngitis: Rumex causticum, Hepar sulph., belladonna, spongia, Kali bich., iodin, etc., should be studied for indications.

It is said George Washington died of acute laryngitis after twenty-four hours' illness. This was the treatment: One quart of blood was drawn from his veins. In two hours a pint more was drawn. In five hours he was no better and he was again bled. Fly blisters were also applied to his throat and his legs. Calomel and tartar emetic were given internally. Do you wonder that he died following such treatment? A good homœopathic physician in all probability would have saved him.

Remember Arum triphyllum 2x in hoarse throats of singers and public speakers. Don't forget our old friend Plantago major in otalgia; five drops of 2x every hour will often work wonders.

If suppuration is inevitable Hepar 2x or 3x will hasten the procedure.

In the severe pain of iritis, spigelia will frequently aid in relieving, as will also jaborandi 2x every two hours. Merc. cor. is another valuable remedy. Hepar sulph. if hypopyon should be present.

In corneal opacities Kali bich. 3x, Calc. fluor., and Cannabis sativa are worth trying.

Styes: After correcting refractive errors Hepar sulph. or pulsatilla will serve you well.

In the pains which frequently accompany myopia from ciliary spasm, physostigma may serve you a good turn.

Phosphorus 2x, 2 gr., three times daily is said to be useful in incipient cataract. I cannot speak from experience. It sounds reasonable and is worth trying. Calc. fluor. is also said to have some virtue in this condition. Should anyone try these remedies be sure of your diagnosis first.

In chronic suppurative otitis media, Kali sulph., silicea, and Kali phos., are good remedies to aid. I shall be pleased, however, to have someone tell us how to cure this condition easily, quickly, and pleasantly.

There are many other remedies to which attention may be called. Time will not permit going into detail. I have merely sought to call attention to a few leading remedies. The indications will have to be looked up to suit each particular case.

I have only mentioned the remedies as an aid to other treatment, although in many cases the internal remedy alone will clear up the case. I do not mean to underestimate the value of local measures, neither do I wish to be understood as advocating these remedies in the place of surgical procedure when the same is indicated.

The point I wish to make clear is that the homœopathic specialist is better equipped to produce good results by virtue of having at his command a list of remedies that are invaluable weapons in battling with diseases of the eye, ear, nose and throat.

LINGUAL ABSCESS: REPORT OF A CASE WITH CONSIDERATION OF THE DIFFERENTIAL DIAGNOSIS.

Douglas Macfarlan, M.D.,

Philadelphia, Pa.

HENRY M., age 52, a gardener, was referred to me by his family physician, with the history of difficulty in swallowing solids. The condition had been gradually developing for ten days, and when I saw him he could only manage to get down liquids. His voice was that of a quinsy case; there was no pain or feverishness, no local symptoms except the description of a stiffness at the back of the tongue; no lymphatic involvement.

Oral examination showed an induration at the base of the tongue at the level of the top of the epiglottis. There was no swelling, but the locality showed a firmness to the probe's touch and also a slight tenderness. On the crest of the epiglottis there were a few atheromatous patches. There were no particularly bad teeth and no active ulceration about the teeth; in short, nothing else of note in mouth, nose or throat.

Previous medical history was negative; there were no evidences of tuberculosis, and venereal disease was denied. It would have been more prudent had I confirmed the absence of syphilis and tuberculosis by tests, for the case was decidedly indefinite.

In a week's time the whole back of the tongue had swollen in a hard mass, but there was no marked extension of the condition such as appears in the cellulites seen in these regions. Nasal breathing was not embarrassed but swallowing was nearly impossible, and a heavy, tenacious mucus kept filling the mouth.

There was a moderate febrile reaction now, but on examination with the laryngeal mirror no pointing of an abscess could be seen.

The case was a most anxious one for patient and doctor. I imagined all sorts of diagnoses when I attempted to differentiate it from typical cases of the serious mouth infections. Most particularly was the "woody tongue" alarming, for this tongue had all the appearances of the actinomycotic tongue of cattle. The patient had

given the story of having been at work thrashing oats prior to the appearance of his trouble, and was sure that the dust had infected his throat (the common source of actinomycosis infection).

Fearing strangulation or the rupture and inhalation of some unseen pointing of pus, I began incising the indurated area. Bleeding was free but no pus was obtained until three weeks after the onset of the trouble. The induration gradually softened down and ran out. The pus was not distinctive and was too much contaminated by mouth organisms to give a positive finding.

The differential diagnosis can be conveniently summarized as follows:

Anthrax.—Epidemic; toxaemia violent in man; prostration; bloody flux; "malignant pustule" with a necrotic core—an indurated area of infection that does not soften or resolve; "splenic" fever; high temperature. Tests: Animal inoculation, and discovery of the chains of bacilli in smears. Source: Cutaneous, intestinal and respiratory infection from animals. Workers in hides are particularly exposed. Recently numerous cases of the infection were reported, arising from the contaminated bristles of shaving brushes. Protection, Pasteur's vaccination.

Actinomycosis.—Ray fungus; yellow, green or black granules in the pus; a chronic, indurated suppuration, with multiple foci of infection in the organs; abscesses; *woody tongue*. Source: Cutaneous contamination; oral infection by the barbs of grain at thrashing time. Varieties: Madura foot.

Glanders.—Farcy buds and nodules, involving chiefly the lymphatics, in man an acute or chronic "infected wound" inflammation; in the chronic cases an indurated ulcer with lymphatic involvement. Rhinoscleroma—*organism*, a curved rod, varying at times to a vibrio. Source: Cutaneous or oral contamination from animals. Tests and protection—the mallein test and inoculation.

Leprosy.—Chronic tuberosa and tuberculosa granulation and infiltration; the general condition usually is good; thickenings; lionine deformity of the face, and anaesthesia of the nerves. Organism—an acid fast rod, like the tubercle bacillus. Tests are uncertain.

Tuberculosis.—Bovine and human types; glandular involvement; lung, skin and bone involvement; tubercles; superficial ulceration, slightly indurative, chronic, pale, and with "mouse-nibbled"

edges; low grade febrile reactions with wasting. Tests: Laboratory examination, skin reaction. Organism, an acid fast rod. Source: Air and milk-borne.

Lues.—Hard chancre, indurated; erythematous patches or shallow white ulcers on mucous surfaces; the gumma and its ulceration beginning as a firm bluish-red induration, breaking down into a necrotic ulcer; edema not necessarily marked; few general symptoms; the ulcerations are clean-cut, "punched out," with necrotic bases, with the discharge of necrosis and with destruction. Course: Chronic. Tests: Wassermann—and dark field illumination; luetin cutaneous reaction and therapeutic test. Source: Human transmission by contact, directly or indirectly.

Ludwig's Angina.—An acute infection of the soft tissues of the floor of the mouth, larynx or neck, sudden in onset, violent in character, rapidly spreading as a cellulitis, producing dangerous dysphagia and dyspnoea. Cause and source—of "infected wound" type.

Vincent's Angina.—An acute specific ulceration and inflammation of any part of the throat due to a spirillum and a fusiform bacillus; rarely chronic, ulcerative; toxemia usually marked; moderate edema but little induration.

Note the similarity in the chronic types of these diseases as regards the induration, slow course, the indeterminateness as to cause (that is, the difficulty in fixing the cause), and the usual low-grade febrile reaction. This differentiation sooner or later must be reviewed by anyone having a case of chronic inflammatory swelling in the throat.

Significance of Syphilis as an Etiologic Factor in Acute Iritis.—In a series of one hundred cases, in all of which three very important points were considered in making the diagnosis, namely:

1. The Wassermann reaction,
2. The presence of condylomata,
3. The therapeutic diagnosis,

C. A. Clapp, of Baltimore, concludes that: (1) "According to this investigation syphilis is the etiologic factor in about 80 per cent.

of acute iritis cases. (2) About two-thirds of the cases are males. (3) Eight per cent. of the cases show condylomata of the iris. (4) The average is about thirty-three years."—*American Journal of Ophthalmology*, March, 1921.

W. G. S., Jr.

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AFTER PLASTIC, GOLD BALL OR
FAT IMPLANTATION OPERATIONS

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Editorial

THE WASHINGTON MEETING

THE thirty-fourth annual session of the O., O. & L. Society was held at the New Willard Hotel, Washington, June 20, 21, 22, 1921, and from every angle was the most successful in the history of the Society. The attendance was the largest yet, the quality of the papers the best ever, and the enthusiasm ran the highest in the annals of the Society. The Society has every reason to feel encouraged as to its continued growth. Under the newly-elected president, Dr. John R. McCleary, there is good reason to believe that the meeting next year will eclipse that of this year. Dr. McCleary is well-known to all of the members of the O., O. & L. Society, having served the Society in numerous capacities, and the JOURNAL as its business manager during some of its most prosperous years. He will no doubt receive the same cordial support of its members as was given the last president. The Society probably will hear something of an encouraging nature from Dr. McCleary at an early date.

In the meantime, he has our congratulations and best wishes for a most successful administration. G. W. M.

RADIUM IN THE TREATMENT OF EXTERNAL DISEASES OF THE EYE

DRS. BENSON AND CLAY, in a well-prepared paper on "A Case of Parinaud's Conjunctivitis Treated with Radium," which appeared in the June issue of the JOURNAL OF O., O. & L., call attention to the value of radium in the treatment of obstinate conjunctivitis of the Parinaud variety. The diagnosis of the disease is unquestionably correct. In spite of carefully selected treatment the disease persisted until radium was used. The results

of radium treatment in this case were so satisfactory that it should stimulate other oculists to attempt this method of treatment in all obstinate cases of the kind.

The editor suggests to those desiring to try out the radium method of treatment that they seek the aid of a radium expert, as did Dr. Clay, for in this as well as in other highly specialized forms of treatment a great deal depends upon the technic. It is hoped that the paper written by Drs. Benson and Clay will fall into the hands of ophthalmologists generally who are seeking light upon the treatment of this troublesome affection. Their paper is a valuable contribution to ophthalmic literature. G. W. M.

CONCERNING THE VOLSTEAD ACT

THE following resolution was passed at the fifty-second annual meeting of the American Medical Editors' Association, June 7, 1921:

WHEREAS, The medical restrictions of the Volstead Act, together with its various administrative and other interpretations and rules and regulations and enforcements, etc., constitute in some of their effects, indictment of the medical profession and harassment of the medical practitioner and the sick, and are obstacles to free pursuit of honest medical judgment and therapeutics, and have reacted to the detriment of society and the public health and are opposed to public policy:

AND WHEREAS, Some of these restrictions and rules and regulations and interpretations, etc., are not based upon consensus of medical experience and practice and established usage:

AND WHEREAS, It is apparent that they have not been framed and interpreted and administered with full appreciation of all matters involved:

AND WHEREAS, The precedent established by the Volstead Act in restricting medical practice, should, if physicians value their therapeutic liberty, be met with a protest that will command attention:

AND WHEREAS, The point at issue is the right of the physician

to select his remedies, and to decide what doses of these remedies each patient requires:

AND WHEREAS, This issue in no wise affects and has nothing to do with propaganda either for or against prohibition, but is purely a matter of preserving the necessary rights of the physician in the interests of public health and public policy:

Be it Therefore Resolved, That the American Medical Editors' Association protests against further undue regulation of therapeutic procedure by statutes or by administrative interpretation or regulation:

And be it Resolved, That the Association requests of the proper authorities a review and revision of such existing statutes or rules or regulations as may be unduly restrictive of the therapeutic judgment and procedure of physicians.

We ask this for the preservation of the necessary rights of the medical profession and in the name of public welfare and wise public policy.

REVIEW

DISEASES OF THE NOSE AND THROAT. By Herbert Tilley, B.S. (Lond.), F.R.C.S. (Eng.) Fourth Edition, with Seventy-four Plates and Numerous Text Illustrations. Published by Paul B. Hoeber, 67 and 69 East 59th Street, New York. 1920. Price, $7.50.

In Tilley's fourth edition the reader, whether a specialist or student, will find a book well worth having for ready reference. It covers the entire field and covers it well. The reading is easy for the student, and illustrations are graphic in every instance. With the index included there are 844 pages.

G. W. M.

PRESIDENT'S ADDRESS

Delivered at the Thirty-Fourth Annual Meeting of the O., O. & L. Society, Washington, D. C., June 20, 1921.

GEORGE W. MACKENZIE, A.M., M.D.

FIRST of all your President wishes to acknowledge with sincere thanks the honor conferred on him by the members of the O., O. & L. Society in electing him to the office. If his services should compare at all favorably with those of his distinguished predecessors he will feel that he has done something toward repaying the Society for the trust that it has placed in him. To say more would be to add niceties without a corresponding measure in facts.

It may be of interest, especially to the younger members, to learn a little of the history of the O., O. & L. Society during its earliest period, and of its accomplishments since. Then may we of the present generation appreciate more fully the true value of our inheritance as measured by the efforts of those who founded the Society and kept alive its spirit.

Your President is indebted to Dr. William R. King, one of the founders and the first vice-president, later president of the O., O. & L. Society, for the data herewith submitted. Dr. King was kind enough to prepare a lengthy letter outlining the early history of the Society, which he kindly submitted along with the transactions of the tenth annual session in order that your President might glean the material necessary for the present purpose.

Quoting from the presidential address of Dr. A. B. Norton, 1897, he says: "Gentlemen, we meet today practically in annual session for the ninth time, though in reality the first annual session of our present organization (O., O. & L. Society). As, however, many of us look upon this Society as a continuation of the old it may not be out of place briefly to refer to the old O. & O. Society.

"The American Homœopathic Ophthalmological and Otological Society held its first session in Put-in-Bay on June 19th and 20th, 1878, with our esteemed associate, Dr. T. P. Wilson, as President."

President Norton, of the present O., O. & L. Society, continuing, says: "Among the reasons given by the president (re-

ferring to President Wilson of the O. & O. Society) in his address for organization of the association at that time (1878) was that since 1874 the bureau work in the Institute has rapidly enlarged. The result has been that we find the department too small for our growing army of ambitious workers." Norton, after quoting Wilson, then points out that "if this was true in 1878 how much more true it is today." President Norton with pride says, "How have our members multiplied in twenty years (1878-1898) and what vast strides have our specialties made in the same length of time."

From the above and other data at hand the present O., O. & L. Society can, therefore, be traced back to 1874, forty-seven years ago, when a group of specialists constituted the Eye and Ear Bureau of the Institute. The Bureau flourished so well during the next four years that the members decided it would conserve their best interests to organize a distinct society, which was accordingly done, and the association became known as the O. & O. Society, which has since been referred to as the old society. According to Dr. Norton the old society "held eight interesting and profitable sessions under the presidency of the following eminent men, whose names will be recognized as the leaders of our specialty: Drs. T. P. Wilson, George S. Norton, W. H. Woodyatt, W. A. Phillips, Henry C. Houghton, C. H. Vilas, F. Park Lewis and D. J. McGuire. Commencing with but a limited membership it gradually increased in strength and numbers, so that at the last meeting we find fifty-one active members upon its roll, etc."

The old O. & O. Society discontinued its organization and again became a bureau of the Institute, the same as it was prior to 1878, for reasons best known to those who consummated the transfer, and it remained as such until 1897 when it was decided to reorganize a separate society, which came to be known as the O., O. & L. Society. The first meeting took place at Buffalo, with Dr. A. B. Norton presiding. It was at this meeting that Dr. King was elected president for the ensuing year. Although this happened to be the first meeting of our present O., O. & L. Society, it was in fact the ninth annual session of the society, if we accept the version of Dr. A. B. Norton and the forty members who were present, that the reorganized O., O. & L. Society was a continuation of the old O. & O. Society under a new name, and with eight meetings to its credit.

The enthusiasm manifested at the meeting held that year (1897) was a guarantee of what was to develop later. No one can deny the fact that our Society has been a live one with a successful career. The prospects are brighter each year. Dr. T. P. Wilson, the first President of the O. & O. Society (1878) believed that it was a good thing for the homœopathic eye, ear, nose and throat specialists to be constituted as a separate body and not as a bureau of the Institute. His belief was concurred in by the members present. Dr. A. B. Norton, the first President of the O., O. & L. Society, endorsed the stand taken by Dr. Wilson and his colleagues. Your President reiterates them today, for after reviewing the success of our Society as a distinctive body for all these years, he sees no reason why the arguments presented by the gentlemen in 1878 and 1897 are any less valid now than they were then.

Our Society can point with pride to its past presidents. All have been men of accomplishment. Naturally some have gained more prominence than others, as happened to be the case with Dr. Royal S. Copeland, who, as you are aware, is the health officer of the greatest city in America if not in the world. Dr. George A. Suffa has probably accomplished more than anyone else in the field of research concerning the behavior of the extra-ocular muscles. Dr. McLean stands the recognized authority for accuracy in tonometry. Dr. Bissell stands quite as high in perimetry and campimetry. Dr. Dowling, it may be conceded, has given us the argyrol tampon, than which there is nothing better for the local treatment of certain intranasal conditions. Dr. Denman's technique for anesthesia is original and rapidly gaining the popularity that it deserves. Dr. Myers is a recognized authority in cataract extraction and a teacher of exceptional ability. Dr. Haseltine's versatility and ability for organizing is well known, while his general fitness qualifies him for much larger responsibilities.

One might go on citing instance after instance of high attainment by this or that member of the Society, but after all it is not so much the distinction earned by the few that counts in estimating the worth of a body of men as does the comparative success of the whole. If one is to estimate the worth of our Society by this standard, then it surely is high, for when we compare the character of the papers and the discussions presented at our meet-

ings with those of other societies of its kind, either in America or abroad, our Society has every reason to feel proud of its attainments, notwithstanding the fact that our smaller membership allows less opportunities for selecting material for our programs than in the case of a large society. There is no better proof of the health and vigor of our Society than recently manifested when the officers found it a task to hold the program down to a three-day limit. For instance, this year the bureau chairmen and officers of the Society and many of the old standbys had to refrain from participating in the program to allow room for others. There was no dearth of material; in fact, we could have easily arranged a program to last a full week or even longer. There is every reason for the Society to feel encouraged. The character of our program has improved each year, the membership and attendance at meetings is increasing. We are surely growing. This brings us to the question as to why all this is so? No doubt many things have contributed, but one outstanding factor has been the existence of an official Journal. By all means it should be continued. There are two things, however, that stand in the way of its continuance and these should receive your serious consideration. The first is the editorship. The present editor finds it exceedingly difficult to do justice to the cause. A younger and more energetic man should be sought, and once he is found and willing to accept the editorship he should receive our heartiest support if for no other reason than our own well-being. The second thing is the financing of the Journal. A Homœopathic Eye, Ear, Nose and Throat Journal cannot be run at a profit with the present high cost of living. Anyone taking hold of the Journal should be guaranteed against loss. The Journal heretofore has been supported financially by a small portion of the membership, while the benefits accruing have been distributed among the mass. These gentlemen have been so patriotic that they have not allowed even the knowledge of their patriotism to leak out. The Journal is one of the biggest assets of the Society and we cannot afford to lose it. Your President, therefore, urges upon the membership to keep it alive and to this end suggests that the Society have a standing committee whose duty it shall be to keep in constant touch with editor and management of our official Journal, and perform such other duties as the Society shall later decide upon.

In order to stimulate original research among our membership your President suggests that a prize be offered—the character of which is to be determined by a committee—to that member who accomplishes the best effort in this particular field. A separate prize, open to all, including non-members, could be offered for the best essay on original research. The object in both instances is to bring to our meetings high-grade competitors.

Our Society, in order to perpetuate itself, should take cognizance of the need of replacements in our ranks. To do this effectually we need a graduate school to make eye, ear, nose and throat specialists qualified to prescribe after the homœopathic principle. We have at the present time the New York Ophthalmic College and Hospital which is quite able to do it, and the prospects for the future are even better. The interests of our Society and the New York Ophthalmic are interlocking, and the more both recognize the fact the better it will be for both. There should, therefore, be a closer pact between them and us than has ever existed before.

Before closing it might be well to call to your attention the fact that the homœopathic department of the University of Michigan will be in need of a new dean at the close of the coming season. Dr. Hinsdale, whom we all recognize as an exceptionally capable man, and one who has been a power in the medical profession, has been urged and has consented to remain for another year, when a new dean will probably be appointed. In view of the fact that one of our members is a professor in the same faculty, it is fitting that we urge upon President Burton his appointment for the vacancy when it occurs. In recommending Dr. Dean W. Myers it might be well to point out the qualifications possessed by Dr. Myers that especially fit him for the responsibility, to wit: His clean character, his executive ability as manifested when he served our Society as its president, his high professional attainments combined with his ability as a teacher.

In closing your President wishes to emphasize the following facts: (1) That a specialist in eye, ear, nose and throat disease with a knowledge of the homœopathic principles has an advantage over others who have not that knowledge. Therefore, we should cherish it and feel grateful to the institutions and circumstances that have brought that knowledge to us.

(2) That our record as an organization is such that we may feel justly proud.

(3) That the prospects for continued growth are excellent.

(4) That our future growth and success are dependent upon the worth of our cause, our sympathy with it and the exertion we put into our efforts.

(5) That our efforts should be directed toward the selection of capable officers, the continuance of the official Journal and the supporting of the New York Ophthalmic College and Hospital.

Mastoiditis With Severe Complications: Recovery.—Three cases are cited in *The Laryngoscope,* January, 1921, by Dr. Alice H. Cook, of Philadelphia, in which serum was used to combat the infection. Case I had pneumococci and mastoid pus in the blood, and developed pneumonia. The pneumonia was benefited by treatment with polyvalent pneumococcic serum. Case II, with pneumococcic and streptococcic infection, had pneumonia, which was benefited by the same treatment; but a double mastoiditis was not prevented and a multiple neuritis was unaffected. The patient also suffered from an unusually severe serum sickness. Case III showed no results from the use of antistreptococcic serum.

(In Case II the factor of lues would seem, perhaps, to play some part, since the history of the case indicates that improvement followed an intravenous injection of neosalvarsan, gms. 15, given on March 6th. The temperature was then 103 degrees and rose to 104 degrees following the injection. "The temperature fell to 98 degrees rising again to 103 degrees and remaining near this level for some days." On the 11th of March (five days after the injection) it reached 105 degrees. Six days after the first neosalvarsan injection, a second injection of gms. 15 was given. The temperature fell to 99 degrees and from this time on the improvement was continuous.

A somewhat similar case was reported by the abstractor at the January meeting of the Philadelphia Laryngological Society. It is to be regretted that in all atypical cases, or cases that do not improve under the usual methods of treatment, the possibility of syphilis is not thought of and a search made for its presence.)

W. G. S., Jr.

SOME EYE POINTS TO BE CONSIDERED IN SYPHILIS *

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Ann Arbor, Mich.

IN thinking of the eye in connection with syphilitic affections, it is important that we remember, first, the frequency of involvement, and, second, the importance of such involvement, not only from the angle of diagnosis and treatment, but from the standpoint of the future of the patient both socially and economically.

A positive Wassermann should call for an examination of the eyes and careful follow-up of the visual behavior. Failing vision of obscure origin, no matter how slight, should call for Wassermann tests of both blood and spinal fluid. It is now quite generally recognized that a lymphocytosis of the cerebro-spinal fluid is often present very early, even in the primary stages and before there are any secondary signs. Nicolau found this true in eighteen out of fifty-one cases. He states further that "it has been usual to regard the appearance of secondary manifestations as the first sign of generalization of the infection, but these observations would seem to indicate that before this period there is already a dissemination of the spirochaetes." As this lymphocytosis of the cerebro-spinal fluid has been observed as early as the third week after the appearance of the primary sore, it may offer a means of early diagnosis of possible neurological lesions. Its importance cannot be overestimated when we recall that syphilis of the central nervous system is often apparently primary and that many times our first warnings may be found in disturbances of vision.

Syphilis may involve the eye primarily or secondarily. It may limit itself in its incipiency to the lids, conjunctiva, orbit or eyeball, as the case may be. Sooner or later, however, a primary syphilis of any one of these tissues will, if untreated, spread to all and destruction of the eye will be the inevitable result. And again, vision may be lost and the life of the patient endangered if the lesion chooses for its hiding-place the recesses of the brain or central nervous system. In the latter group we find those presenting

*Read before the Illinois State Homœopathic Medical Society, May, 1921.

the gravest dangers and requiring the most painstaking and prolonged attention. Upon the lids and conjunctiva we may find hyperemia, mucous patches or gummata, and in the orbit back of the globe there may be the same conditions, varying from hyperemia of the periosteum to gummata of the orbital tissues. "Stenosis of the nasal duct may be the sole disturbance in the beginning." Wherever the location, if it so happens that it be situated upon the outside, so to speak, where nature has provided an abundant blood-supply, our modus operandi is comparatively easy. It is another matter, however, if the infection has lodged deep in the substance of nerve-tissue, where destruction and breaking down is out of all proportion to any repair process to be expected, and it is here that we find ourselves confronted by gigantic problems.

Syphilis involving the external eye-structures is, in general, easy of diagnosis; the history, the appearance and the Wassermann reaction being conclusive in virtually all cases. It may occur, as stated, upon almost any portion of the exposed eye, and at first has much the appearance of an infected dermal gland. It rapidly assumes a virulent form, however, the hardness and infiltration furnishing a means of at least partial recognition. The primary sore is acute and very rapid in its progress, while the disintegrating gumma is slower in its development and less active in its inflammation. The Wassermann blood reaction will be positive in virtually all of these cases and should be regarded as conclusive evidence. (In making the last statement I would qualify with the usual reservations having reference to the failure of this reaction in occasional idiopathic cases).

Keratitis.—Syphilitic keratitis occurs more frequently in the young, is practically always hereditary and may be primary in the eye. Professor Dr. Josef Igersheimer points out that it is "almost purely an effect of the treponema in the foetus and in the newborn." He doubts a tuberculous etiology of keratitis, having found a positive Wassermann in nearly all his cases.

Iritis and Cyclitis.—The iris and ciliary body may also be separately or jointly involved and it is well to remember that in virtually all cases of syphilitic retinitis these tissues have been involved first. Indeed it is difficult to distinguish just where an iritis, a choroiditis or a retinitis begins or leaves off, so intimately are they associated. Primary lesions of each may occur but are noted

very rarely. Syphilitic involvement of the optic nerve furnishes an almost endless source of study. Primary attacks upon the ocular or orbital portion of the nerve may be comparatively rare, but lesions of the "central end" must prove fully as interesting and fruitful of dire results.

Optic Neuritis.—Uhthoff has made some studies into the direct effects of syphilis upon the optic nerve. While finding the ocular portion frequently involved, his observations led him to the conclusion that the intra-cranial portion was more often attacked. He found the orbital portion may be attacked directly, and observed papillitis, retro-bulbar perineuritis and peripheral interstitial neuritis with ampuliform dilatation of the sheath in one case, while in another case the anterior end of the vaginal space was filled with new connective tissue, while the posterior part of the nerve was normal. Where involvement of the intra-cranial portion was observed he noted direct attack by gumma or gummatous infiltration from the meninges, suggesting that the neighborhood of the chiasm is a favorite spot for gummatous meningitis.

Parsons states that syphilitic affection of the optic nerve may stimulate an intra-ocular tumor, and Juler also reports such a case. In the cases reported the "papilla was swollen and the surrounding retina much thickened and partially detached."

It is perhaps into this type of syphilis, whether involving the visual centers or not, that we shall find our future researches leading us, for is it not now true that syphilis of *anything but the central nervous system* is considered relatively easy of cure? An explanation may, therefore, be found for the seeming stress laid in this brief paper upon this feature of the eye-symptoms of syphilis. Pupillary irregularities and visual disturbances are so frequently the very first signs of the disease that we cannot be too alert in our recognition of these important manifestations.

Symptoms.—Aside from those symptoms already mentioned, covering the lesions of so-called external nature, there are those representing the peculiar conduct of the eye in the deeper and more obscure involvements, including the attacks upon the central nervous system. Among the foremost and perhaps least thought of signs of syphilis in any stage or location is pupillary inequality, known as anisocoria. This, together with the ocular symptoms of tabes

dorsalis, constitutes to my mind the most important group, and it is upon these signs that I wish to dwell for a few moments.

Anisocoria.—Nicolau remarks that irregularity of the pupil without the Argyll-Robertson sign may be met with in all periods of syphilis. It may appear as early as the fourth week from the onset of the primary sore, later during the secondary stage, or still later in the tertiary stage. The occurrence of this phenomonon in the primary stage of syphilis has not yet received due attention. Early irregularity of the pupils may coexist with early lymphocytosis of the cerebro-spinal fluid, not only in the secondary period but also in the primary stage. However, early lymphocytosis, except in rare cases, eventually disappears, but inequality of the pupils is often permanent, and one sign may be present without the other.

Persistent inequality of the pupils ought not to be considered a menace to the patient's future, but as it probably indicates some involvement of the central nervous system it should be carefully watched. It is also a valuable diagnostic sign in latent or doubtful syphilis.

Tabes.—In considering the ocular symptoms of this disease, it must occur to anyone at all familiar with its symptomatology that these manifestations are of paramount importance. Nowhere in the field of medicine is the ophthalmologist more needed than here, for every one knows that he is, many times, the first to diagnose the presence of a tabes that might not manifest ataxic signs for many years. If treatment is to be at all effective in this disease it must be instituted very early. By the time ataxia has appeared all hope of a cure has passed, at all events so far as vision is concerned.

The natural division of these symptoms, now well recognized, calls one's attention to pupillary manifestations, to paralysis of the motor oculi and to changes in the optic nerve resulting in atrophy and blindness.

The well known and easily recognized Argyll-Robertson pupil of tabes has for its characteristic the peculiar phenomenon of pupillary reaction to accommodation while failing entirely to respond to light stimulus. Occurring early, before the loss of vision is marked, this sign must be due to involvement of the so-called *pupillary fibres* of the optic nerve and Fuchs thinks it most probable that the lesion is located "somewhere along the course of these fibres on their way to the nuclei of the abducens, namely, in the vicinity of

the aqueduct of sylvius, along the posterior longitudinal bundle." The importance of this symptom in tabes becomes apparent when it is remembered that it is one of the very first signs recognizable, and that it is present in about 75 per cent. of all cases. "This reflex immobility is also present in about 50 per cent. of the cases of general paresis and in 10 per cent. of all individuals suffering from brain syphilis. It is exceedingly rare in other nerve affections. Reflex immobility is, therefore, an almost exclusive sign of syphilitic or parasyphilitic infection of the nervous system." (Fuchs.)

Contraction of the Pupil (miosis) is secondary only in importance to reflex immobility and may occur in connection with that symptom, probably in nearly one-half of the cases. It is due to failure of stimulus to reach the dilators, and the pupil consequently closes.

Inequality of the Pupil (anisocoria) does not occur so frequently in tabes as in other forms of syphilis, but is found in about 25 per cent. of the cases.

Paralysis of the Motor Oculi occurs in about one-fifth of the cases and appears considerably in advance of the ataxic symptoms. In this form of paralysis the involved area will be either in the region of the nuclei of the motor occuli or in the trunk of the nerve itself.

Optic Nerve Atrophy attacks about one out of every eight cases of tabes, and almost inevitably results in total blindness. The period of time consumed in this destruction of vision varies from a few months to a number of years (ten to twenty), but the end is always the same. The disease attacks men more frequently than women and the exceedingly rare disease known as infantile tabes —hereditary tabes—is almost always accompanied by atrophy of the optic nerve. Fuchs points out that the "first symptom of the loss of vision is the retarded adaptation to darkness—afterward acuteness and the visual field diminish for perception of some colors, as red and green, while the perception of form remains." I believe we will all agree with him when he says that "tabes patients are syphilitic cases whose infection seems mild." He asserts that "those having frequent syphilitic manifestations are not threatened with tabes," and that "this is the reason why this condition is never seen in those who have suffered syphilitic iritis and perforated palate." He calls our attention to the importance of careful Was-

sermann tests upon the blood and *spinal fluid* when these early eye symptoms point to the probable presence of an incipient tabes. When these tests are positive there is danger of tabes or general paresis and vigorous treatment must be instituted until the tests are negative. When the disease has become apparent there is little hope of recovery, particularly so far as vision is concerned—other symptoms may improve but action upon the optic nerve is nil. I cannot pass by this point without dwelling a moment more upon the theory of this worker as to the cause of this failure. He says, "the failure of the specific treatment in parasyphilis is explained by the special condition of the blood-supply of the nervous system. The meninges are rich in vessels which are in contact with the surrounding connective tissue, and, therefore, the blood and the medicinal substances contained in it can pass freely from the vessels to the meningeal tissue. In the nervous system, on the contrary, the vessels are surrounded by a sheath of neuroglia that seems to offer an insurmountable barrier to some substances. Syphilitic affections locate by choice in the meninges, while with parasyphilis the spirochetes are found in the nervous tissue itself and, therefore, are not accessible to drugs. This is the reason why the introduction of remedies directly into the cerebro-spinal fluid has been suggested. The success with other symptoms of tabes lends hope that this method may prove effective in atrophy of the optic nerve. In general, authorities are quite agreed that the presence of eye-symptoms in syphilis calls for vigorous treatment. There is some difference of opinion, however, as to the advisability of the exhibition of arsenical preparations. All seem to agree that there is absolutely no danger to vision provided the optic nerve has not yet been attacked. If the retina and papilla are normal and vision still undisturbed, salvarsan treatment may be employed. Wurdeman believes that the "reports of blindness, and especially cases of optic neuritis from the use of therapeutic doses of arsenic, made some years ago, were improperly promulgated and imperfectly substantiated." His experiences have convinced him that, in therapeutic doses, arsenic in the human being has produced no untoward effect upon the eye. He declares further that clinical evidence supports the view that where cases of inflammation of the retina and optic nerve arises in syphilis, their course has been hindered by the administration of arsenic;

in fact, in all such cases the lesion has melted away leaving little or no trace of inflammatory products or degenerations.

Others are more conservative and depend upon the vigorous administration of mercury, the method of application depending upon the preference of the individual into whose hands the patient may chance to fall.

Kearney says that "when any of the eye-tissues *except the nerve* is attacked, the arsenical preparations may be administered intravenously in addition to the mercury with good effect, but full dosage should never be given." He points out that while many brilliant results have been recorded, some disasters are also to be found. He, therefore, states emphatically that in his opinion "arsenical antiluetic preparations intravenously employed are contra-indicated unless convinced that the optic nerve is in a healthy condition." The exception to this rule is the imperative necessity of a spirocheticide or "when other existing luetic lesions demand its assistance in addition to mercurial medication. It may then be given with a fair degree of safety providing that not more than one-half dose be given at one time and not less than four days intervene between administrations."

That the eye-ground of all patients suffering from syphilis should be examined at frequent intervals will be conceded by all thoughtful individuals and, granting a normal optic nerve at the beginning of treatment, arsenical preparations may be employed in conjunction with mercury with a reasonable expectancy that favorable outcome will follow. The appearance of an optic neuritis during a course of a series of salvarsan treatments should probably, in the present stage of our knowledge of these things, call for cessation of the salvarsan.

If these deductions are based upon fact, it becomes apparent that the eye-ground cannot be too closely watched.

317 South State Street.

THE NEW CONCEPTION OF LABYRINTH PHYSIOLOGY *

FRANK J. NOVAK, JR., M.D.,

Chicago, Ill.

THE purpose of this paper is to inquire into the question whether Griffith's observations upon the labyrinth have scrapped our accepted ideas of labyrinth function, and if so whether the accepted vestibular tests are of any further value in neural and otological diagnosis. The writer wishes to advance a conception of the nature of nystagmus, in the light of which the two apparently conflicting views may be in a measure reconciled.

In the interest of clearness in dealing with a subject which is so difficult and involved, let us state in simple words, first what we mean by labyrinth, and second by the vestibular apparatus. The labyrinth for us is merely that portion of the internal ear comprising the three semi-circular canals, the utricle and the saccule. It is the end organ of the so-called vestibular apparatus. The vestibular apparatus consists of the labyrinth and the nerve tracts which connect the labyrinth with the various portions of the central nervous system. More definitely, the eighth nerve, nuclei and fibre tracts in the medulla and pons, fibre tracts in the peduncles, cerebellum and cerebrum.

For the sake of convenience we shall call the present accepted idea of the physiology of the vestibular apparatus, the Barany teaching, with the full understanding that Barany's original work has been modified both by himself, and by a host of later observers. It is obviously impracticable to enter upon even so much as an outline of the Barany teaching in this paper. Suffice it, therefore, to state briefly the axioms upon which the Barany structure rests.

First, That a definite measured stimulus applied to the normal labyrinthine canals results in a definite train of phenomena which are constant and specific.

Second, That endolymph movement inevitably carries with it a synchronous nystagmus and vertigo.

Third, That nystagmus is a physiological reflex.

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Griffith's work upon the effect of bodily rotation of white rats upon nystagmus apparently discredits these axioms. He apparently shows by elaborate experimental study that the phenomena following rotation are not constant. Repeated and prolonged stimulation of the canals results ultimately in a progressively diminished vertigo, and a progressively decreased nystagmus, both of which in the end are entirely abolished. He subjected individuals to long-continued rotation daily for long periods of time. These individuals ultimately showed neither nystagmus nor vertigo, regardless of the number of times they were turned or the rate of their rotation. He shows conclusively that this is not a fatigue phenomenon. He points out that nystagmus and vertigo are not fixed and constant reflexes, that their duration and degree is subject to great physiological variation, and that both of the so-called reflexes may be abolished completely by prolonged bodily rotation.

This revolutionary work of Griffith is of great practical importance in view of the fact that an elaborate scheme of neuro-otological diagnosis has been built upon the Barany axioms.

Griffith shows that the vestibular apparatus is, first, a more highly complex mechanism than our present conception of it has led us to believe; second, that the accepted methods of labyrinthine stimulation are gross and inaccurate. For the stop-watch he substitutes a smoked drum recording apparatus, a kymograph. He controls the stopping and the starting and the rate of rotation of the chair with great finesse. He makes the observation of the rate, duration, amplitude and direction of nystagmus a matter of mathematical exactness by the use of a reading microscope mounted on the chair.

Thirdly, he shows that the vestibular apparatus is subject to great functional variation in its sensitiveness to stimulation, depending upon bodily fatigue, varying states of bodily health, time of day, sex, age, etc. Fourthly, he has shown that the so-called reflex (nystagmus and vertigo) may be eradicated by over-exercise. In doing these things has he not merely elaborated and greatly refined the old Barany examination? And as for the decrease and ultimate elimination of nystagmus following long-continued rotation, has he not merely eliminated the phenomenon of nystagmus by over-exercise of the vestibular apparatus and made it thereby unavailable as a test? To put the matter in another way: Given a labyrinth

which has not been tampered with by experimental over-exercise in the physiological laboratory; given a technic of stimulation of the labyrinth which is highly refined, and more scientifically controlled than are our present methods, and what is there in Griffith's experiments which invalidates the Barany tests? It seems to the writer that the Barany conception, in a modified form, maintains itself against the onslaughts of this trained, scrupulously exact, scientific observer.

Shambaugh, in his classical experiment (*Annals Otology, Rhinology and Laryngology,* December, 1912), upon a fistula of the horizontal canals has conclusively shown that endolymph movement is synchronous with the resulting nystagmus. In other words, nystagmus lasts as long as the endolymph moves. Moreover, he proves that the nystagmus is in constant relation in its direction with the direction of the endolymph movement.

Griffith attempts to show the fallacy of this observation by the following experiment: He mounted a moving picture camera upon a Barany chair, and photographed the nystagmus during rotation. The picture shows a nystagmus during the entire rotation, whereas the nystagmus should cease when the endolymph movement has caught up with the bodily rotation-rate. The fallacy of this observation lies in the fact that the picture recorded the ocular nystagmus of accommodation to the moving visual field. In other words the patient did not have his eyes shut during the rotation.

Let us inquire into the nature of the phenomena of nystagmus, and gaining a psychological view of the phenomena see what light it throws upon the dispute. By way of introduction to the problem let it be determined, if possible, which part of the phenomena of nystagmus is purely labyrinthine. 2. Whether all of the phenomena are labyrinthine in origin, or whether part of the phenomena is also cerebral.

It has been definitely shown that in deep surgical anaesthesia when functions which are purely cerebral are totally ablated, caloric stimulation of the vertical labyrinthine canals causes conjugate deviation of the eyeballs. In other words, if we irrigate the left ear with cold water, thereby stimulating the left vertical canals, the eyes are distinctly and markedly drawn to the left. This is called conjugate deviation of the eyeballs to the left. If we irrigate the same ear with hot water the eyes are drawn to the right; *i. e.,* there is a

right conjugate deviation of the eyeballs. Obviously this fact is capable of but one interpretation. The ether has eliminated the cerebrum from any part in this experience. The conjugate deviation is purely a vestibular occurrence. The slow pull of the labyrinth is the slow component of nystagmus, for upon emergence from surgical anaesthesia the slow pull is overcome by a quick movement toward the median line. That is, with the return of cerebral function the tendency of the eyes to turn from the median line is corrected by the cerebral control, with a resultant nystagmic jerk. Furthermore, the same conjugate deviation observed by stimulating the labyrinth in surgical anaesthesia occurs also where pathological lesions block the pathways from the labyrinth to the cerebrum, in those cases where the pathways from the labyrinth to the ocular nuclei are not blocked. This fact has been verified by numerous autopsies and is not a mere theoretical speculation. How else can we regard the slow component of nystagmus but as the labyrinthine pull, and the quick component as the cerebral correction?

Keeping well in mind, therefore, this fact, that the slow component of nystagmus is purely labyrinthine in origin, and that the quick component is purely cerebral in origin, the writer wishes to advance his theory of the genesis and nature of nystagmus upon that basis. He does so with a timidity born of the knowledge that he must postulate conditions which do not exist in reality, though fortified by the knowledge that all theories are based upon postulates which are not capable of actual demonstration. For example the lateral side chain theory has never received the support of the observation of the actual existence of side chains, amboceptors, etc., etc. But only by postulating their existence can a rational conception of the nature of the observed facts be obtained.

Let us picture, therefore, merely for descriptive purposes a hypothetical individual. He is equipped with a body which is anatomically correct and which is capable of ordinary physiological function. He is thoroughly naive in that his body has had no physiological function. He is ordered to execute "left face," *i. e.,* he turns his feet to the left, and rotates his body and head 90 degrees to the left. The head turns to the left but the eyes remain directed in the original direction. Through the mechanism of the eye-muscles and their innervation the eyes jerk 90 degrees to the left to take their position of looking straight ahead in the new position of

the body, which is the normal position of normal ocular balance. This jerk of the eye to the left is a cerebral act and is what we will come to know as the quick component of nystagmus. Now, while he was in the act of turning, his horizontal canals were moving away from his inert endolymph. He repeats the left face; he again moves away from his endolymph and the eyes again snap 90 degrees to look straight ahead. If he repeats the left face continuously he is rotating about an axis. The snapping of the eyes is a purely ocular phenomenon at this stage, a cerebral act to keep the eyes looking straight ahead, *i. e.,* to accommodate themselves to the flow of the visual field.

The cerebral act of jerking the eyes in the direction of rotation and the purely mechanical fact of endolymph movement occurring at the same time, but independently of one another, ultimately become associated, and after this process has occurred many times as a result of this repetition, the jerking of the eyes and endolymph movement follow one another reflexly. It becomes in a measure what in physiology is known as a conditional reflex. It is a synthetic process. At first they are merely synchronous happenings, but after much repetition are not only synchronous, but become intimately associated one with the other. And so after much experience independent of rotation, whenever endolymph movement occurs it carries inextricably with it what was at one time an independent ocular phenomenon, *i. e.,* slow movement one way and the quick cerebral accommodation of the eyes the other way. Keep in mind, therefore, that nystagmus is a synthetic product, a result of experience from a primitive tendency of the eyes to jerk in the direction of bodily movement.

This bodily movement is incidentally accompanied by endolymph displacement. This endolymph movement becomes translated by knowledge and experience into stereognosis and orientation through co-operation with muscle-sense, joint-sense, temperature, vision and visceral sensation. The gradual combination of these factors through association takes place. Endolymph movement to the left becomes by interpretation bodily rotation in the opposite direction. When all of this has taken place our hypothetical individual will have evolved into the physiologically fully developed human being. Whether there is any phylogenetic or ontogenetic basis for this conception of the genesis of nystagmus is not pertinent here. It gives

a rational basis for the explanation of Griffith's experiments and so serves its purpose.

Consider now the experimental subject whom Griffith rotates in his laboratory.

When Griffith's experimental subject is rapidly and excessively rotated, his vestibular apparatus undergoes an intensive educational process. Gradually the acquired (and I wish to stress the word "acquired") tendency of the eyes to lag behind in the direction of the endolymph movement is overcome by the highly developed cerebral control. There is a rapid and greatly developed control of the ocular musculature. The seeming inexorable linking of endolymph movement with ocular movement of our hypothetical man becomes broken. The synthetic thing, nystagmus, is disassociated by resolution into its elements. The labyrinth pull is not merely overcome. It no longer exists because primarily it was not an integral part of the ocular phenomena. The two were originally thrown together by temporal association. They occurred synchronously. The experimental subject of Griffith's laboratory, therefore, by the play of experimental control develops an educated labyrinth, and an educated, or better, a highly trained vestibular apparatus. He has a highly cultivated vestibular apparatus, and rapid and long-continued rotation no longer produces nystagmus. The writer has not considered the question of vertigo, for to do so in a brief paper would prove confusing and make the presentation of the theory more difficult and involved.

Conclusions

Griffith shows that present otological methods of vestibular examination are gross and, therefore, scientifically inaccurate.

He shows that nystagmus is probably not a reflex in the sense in which similar physiological phenomena are called reflexes.

We have tried to show that nystagmus is a neural complex. It can be modified by over-exercise of the end organ. This neural complex hangs together because its elements have become fused through experience. In the experience of the race bodily movements of the individual take place simultaneously with accommodating ocular movements. When these bodily movements take place, the fluid contents of the labyrinth undergo displacement. These three

experiences (*bodily movement, endolymph movement, ocular accommodation*) gradually become fused into a neural complex. When endolymph movement occurs the chain connects it with ocular movement. This is a nystagmus; a synthetic product.

The labyrinth can be educated and what seems an inevitable linking of endolymph with ocular movement can be broken up.

Because this experimental freak is possible it does not necessarily invalidate the neural complex which we call the vestibular apparatus as a means of approach to the intra-cranium.

The Barany test is not scrapped. It needs but to be rehabilitated by greater precision in technic, and by making due allowance in the interpretation of results for bodily fatigue, age, sex, time of day, number and frequency of the vestibular excitations, visceral integrity, fever and blood-pressure. In other words, Griffith has shown that the Barany test of the future is a more difficult and a more complicated thing that we had thought it was.

It was our purpose originally to include in this paper a series of otological cases studied on my service at the Cook County Hospital in which the traditional vestibular tests were made, and in which the post-mortem findings corroborated the clinical diagnosis. This, however, is not a novel experience, and even a cursory reading of the literature will reveal that a large number of records are available which prove that many cases of vertigo and nystagmus have been analyzed by the Barany examination, and the intracranial lesion exactly localized. It has been urged that we count the hits and ignore the misses. But the hits occurring with such significant frequency would suggest that the Barany examination, even in the relative crudity of its present state of development is a valuable aid in intracranial localization. To present the series of cases in this paper would prolong it beyond reasonable limits, inasmuch as only a complete detailed analysis of each case is of any real value. This material then is being prepared for a separate report to be presented in the near future.

DISCUSSION

G. W. MACKENZIE, Philadelphia, Pa.: Dr. Novak is to be congratulated for his independence of thought and originality. The discussor occupied a similar position at one time. For a long time

after Barany published his monograph on "Die Physiologie und Pathologie des Bogengang Apparat beim Menchen," in 1906, authorities the world over accepted without challenge all the data and conclusions furnished by Barany. The journals were choked with articles by numerous authors, veritable satellites anxious to capture some of the reflected glory of Barany. In English there appeared conspicuously two textbooks, one by Ruttin and the other by Braun and Friesner, that purported to verify all the observations and conclusions of Barany, the mistakes along with the truths. They emphasized the mistakes out of proportion to the truths because they were more fantastical. The experience of the discussor, together with his conclusions, were in some respects at variance with those of Barany as repeatedly set forth both in the German and English literature. To illustrate the point I will quote from a paper in English presented before the American Laryngological, Rhinological and Otological Society.

Barany's Findings in Normals	My Findings in Normals
Average duration of horizontal after-nystagmus to the right after ten turns to the left was forty-one seconds.	Average duration of horizontal after-mystagmus to the right after ten turns to the left was a small fraction of a second less than twenty-four seconds.
Average duration of horizontal after-nystagmus to the left after ten turns to the right was thirty-nine seconds.	Average duration of horizontal after-nystagmus to the left after ten turns to the right was twenty-four seconds.
The maximum duration for horizontal after-nystagmus to the right after ten turns to the left was ninety-eight seconds.	The maximum duration for horizontal after-nystagmus to the right after ten turns to the left was twenty-nine seconds.
The maximum duration for horizontal after-nystagmus to the left after ten turns to the right was one hundred and twenty seconds.	The maximum duration for horizontal after-nystagmus to the left after ten turns to the right was thirty-one seconds.
Barany makes mention of seeing one case with no nystagmus after ten turns, and uses this as his minimum for after-turning nystagmus.	I have observed two cases with apparently no nystagmus, but upon repeating the test and turning the patient at a more rapid speed and examining carefully, I was able to note and time the nystagmus, when it was found to be of relatively short excursions and lasted the usual length of time.

In sixty individuals examined on different days, he observed horizontal nystagmus averaging forty seconds. Maximum eighty seconds; minimum twenty-five seconds. He found only one-fifth of the cases showing consistently the same findings, which is the negative way of putting it that four-fifths showed variable findings.

I have examined a fewer number of cases after such methods, and have found the average after ten turns for horizontal after-nystagmus, to equal about twenty-four seconds. I have never found anything like the variations that Barany has. The greatest variations were but a few seconds, and these could have readily been explained on the ground of faulty observations.

In a number of cases where he had tried both rapid and slow turnings, he has found that after ten rapid turns the nystagmus lasted from eighteen to nineteen seconds. While after slow turns, from twenty-six to thirty seconds.

In one-half the cases he found the rapid turns produced a longer after-nystagmus than slower turns.

I have tried patients with both rapid and slow turnings, with the result that the duration is apparently less after slow than after rapid turns, and consistently so. However, most careful tests will show them to be about equal in duration. The difference is more apparent than real, for the reason that after slow turning the nystagmus is less intensive than after rapid turning, hence less noticeable and more difficult to determine the moment of cessation.

He claims that with a great number of persons the horizontal nystagmus after twenty, thirty, forty, fifty and sixty turns was the same as after ten turns; adding that it appears that in the average ten turns show the hochsten Werte (highest worth, value or rate), while with a greater or less number of turns the amount diminishes.

I have not examined many persons after as many as thirty, forty, fifty and sixty turns, for the reason that they are hard to get. So I had to be the subject myself many times. I am, therefore, not in the position to match Barany in material. I have not found the after-turning nystagmus after ten turns to be of the hochsten Werte in any sense in which the expression may be interpreted. For instance, I have found the nystagmus to increase consistently in duration between ten and twenty turns. Furthermore, I find less variations after twenty than after ten turns, showing, therefore, that the results are more reliable after twenty turns than after ten turns.

He claims that the amount of after-turning nystagmus after twenty turns is about equal to that after five turns.

I have never in my experience found this to be true in a single case.

He claims that after twenty or more turns there appears, not infrequently, a nach-nach nystagmus (after-after nystagmus) in the direction opposite to the after-nystagmus, lasting sometimes a minute.

I have never seen an after-after nystagmus in many hundred examinations, including those in my list. I do not believe it exists, and will not believe it until it is shown to me.

Concerning dancers, he claims that with those who habitually turn to the right the duration of the horizontal turning nystagmus to the left falls considerably shorter than that to the right.

I was fortunate enough to obtain a whirling dervisher, with the stage name of Hash Hash, who was a left turner. I examined him on many occasions, and found that his duration of nystagmus was consistently the same on several occasions. The figures were reduced for both horizontal and rotary nystagmus to both sides, and more so to the right. This one case supports the claim of Barany. (Case 10 in the list.)

It took many years before my findings were accepted, verification of which is an abstract from a letter from Dr. Isaac Jones, of the Aviation Service, U. S. A., which reads as follows:

"Full statistics are not yet in, but you will be confirmed in your statement you have always made that Barany has the after-turning nystagmus too long—the averages so far as we have gone are very close to between 22 and 27."

The question naturally arises as to the reasons for the discrepancies between Barany's findings and mine. Reduced to its simplest terms it was looseness in his technique that led Barany into errors concerning his findings and conclusions relative to after-turning nystagmus, as pointed out in the paper on the same subject by the discussor and emphasized by Dr. Novak in his excellent paper. Careful technique is the most important factor in all experimental work.

Many investigators followed Barany and did very creditable work; the majority, however, fell into errors the result of looseness in technique, which in turn led to still grosser errors in their conclusions. It was because of these blatant errors that the discussor was prompted to prepare a paper on the subject, entitled, "Careful Technique in Making the Labyrinth Tests," read at the Pittsburgh meeting of the Amer. Acad. of O., O. & L., October 27, 1917.

From the tenor of Dr. Novak's paper I take it that he is endeavoring to save that which is good concerning the so-called Barany tests and improve upon that which is questionable. Many authors, especially Americans, are prone to speak of the tests for labyrinthine functions as the Barany tests. A study of the literature prior to Barany's entrance into the field will reveal the fact that experimental rotational vertigo and nystagmus had been repeatedly observed and reported by others. Perkinje observed vertigo and nystagmus after turning as early as 1820. Caloric experiments were made on dogs by Baginski in 1881. Experimental fistula tests were made by Ewald in 1888. Past-pointing experiments were made by Stewart in the case of eye-muscle paresis; static and dynamic elusional experiments were made by Delage in 1886. Kipp, the American, observed and described the vertigo of labyrinth suppuration in 1888, also the fistula of the labyrinth symptom about the same time. In fact, scores of researches had been made and recorded and clinical manifestations of fistula of the labyrinth, destruction of the labyrinth and of the eighth nerve had been published years before Barany entered the field. It remained, however, for Barany to correlate the observations of others together with his own and make them serve a clinical purpose. His greatest achievement perhaps was the solution of the problem of caloric nystagmus. His work on after-turning nystagmus was very crude compared to his work on the caloric reaction of the labyrinth.

If one should err in his technique there must result inconsistent and faulty findings, and with these faulty findings as premises it follows that his conclusions must be faulty, too. Otologists have been criticised at times by the neurologist, not so much for our ability to diagnose labyrinthine and eighth nerve lesions as for over-enthusiasm of some otologists in the field of neuro-otology. The failures of the neuro-otologists have been failures due to faulty technique. It is for this reason that we ought to encourage those imbued with the true scientific spirit to push their investigations to the limit with the object of clarifying some of the remaining unsolved problems. Dr. Novak and others accept our best wishes for success.

THE MERCURIALS IN AURAL PRACTICE *

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IN choosing the title for a paper to read before this Society various things must be taken into consideration. There are widely different demands made upon those who present papers at any of our meetings by the distinct groups of physicians who make up our membership. An aurist who writes a paper within his province knows that he brings nothing of interest to those who treat exclusively affections of the eye, or of the nose and throat. In his mind he dismisses these good colleagues from his audience at once. There remain those who treat the ear, and these look to him for something interesting or instructive, or, best of all, something new if he has it to offer. The new things lie almost invariably among the little details or technicalities of diagnosis or operative procedure which are, perhaps, only intelligible to those who are exclusive specialists, and concern no others in any practical way whatever. Unless there are some papers each year of this grade and character our Society will lower its standard and will cease to progress, and, on the other hand, unless this class of exclusive specialists are presented with such papers annually they will cease to attend our meetings.

This is perfectly right and just. But outside of this little group of men who are looking for the latest and the newest things there is a far larger group among our members who have demands of quite another sort, and these should not be disregarded. Many of our members treat the ear in connection with the eye and the nose and throat, and many are not exclusive specialists at all but still conduct a considerable amount of general practice. These members come to our meetings expecting to hear some papers from those of larger experience than their own in the treatment of special conditions, which will embody points of practical importance to them in their daily work—points which may seem rudimentary to

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the writers of the papers, but which, after all, lie down among the fundamental things. This paper of mine is prepared for this section of our membership, and especially for those who have realized from their own knowledge and experience how great is the help derived from the use of internal remedies in the treatment of diseases of the ear, and who are earnestly trying to prescribe these remedies with greater precision.

It will be of interest, at least from an historical standpoint, first to scan briefly the original sources of our knowledge of the pathogenic action of mercury upon the human ear—for upon this, of course, its curative action is founded in our school of practice. The effects of mercurius vivus, the ordinary elementary quicksilver, upon the workers in quicksilver mines in different localities, have been recorded and commented upon by several writers. Three of these authors, one writing as early as 1671, mention *deafness,* in varying degree, among the effects observed by them, and three record *roaring* in the ears as commonly developing among these mine workers. Another writer reports *deafness* as occurring in a gilder, among other effects of quicksilver poisoning, and still another mentions a similar effect upon a "silverer." Still another gilder developed a symptom so interesting that I will quote the record as follows: "Remarkable exaggeration of sensibility; the noise of a horse or carriage made him start to such a degree that several times he would have been run over had he not kept close to the walls or shop-fronts. He was then obliged to stop for fear of falling; he could not express the disagreeable sensation which the noise occasioned." This is the foundation of the symptom "oversensitive to loud noises."

Mercurius solubilis, a new preparation of mercury which was devised by Hahnemann during his chemical researches, previous to his homœopathic investigations, and which he subsequently employed in his provings of mercury, produced well-marked effects upon himself and his little group of eight fellow-provers. In two of these the ears were inflamed, "internally and externally." Pain in the ears was produced in four out of the nine provers; "sticking" pain in three of them, "tearing" in two, "burning" in two, "twinging" in one and "pressive" in one. The canals became moist in one, with discharge of yellow, bloody and offensive matter. Deafness was noted by two of the provers. A feeling as if the ears

were stopped was recorded by two. Two experienced a cold, wet sensation in the ears, one of them "as if cold water were running out." Itching and sensation of crawling occurred in one. Tinnitus was recorded by two at different times, "roaring" predominating and mentioned repeatedly; then "humming," also in both provers, with mention, by one each, of "ringing" for several days, "fluttering" and "whizzing." Finally, oversensitiveness to sounds, with deafness, is recorded by another of the provers.

To this foundation of knowledge of the action of mercury upon the ear by strict pathogenesis was added further information, partly by subsequent provings but chiefly derived, clinically, from so-called "cured symptoms." It was soon found impossible, however, to preserve any distinction between the symptoms of the solubilis and the vivus, and the action of these two forms of mercury is now considered as identical. The resulting symptomatology of mercury in general, derived from all reliable sources, as relating to the ear and also to closely associated conditions of the nose, throat and mouth, may thus be practically summarized as to its guiding symptoms for the aurist:

Ears.—Moist conditions of the meatus. Inflammation of the external canal, either circumscribed or diffuse, and of exposed surfaces in the middle-ear. Areas of ulceration, or spongy and boggy areas, with excessive granulation. Discharge purulent, excoriating, offensive, yellowish or greenish, and often bloody, and sometimes of a coppery or metallic odor. Pain sticking, tearing, shooting and burning. Tinnitus, roaring, humming and ringing. Deafness of varying degree. Oversensitive to loud noises. Sense of obstruction in the ears, relieved momentarily by blowing the nose or swallowing. Sensation of pressure in the ears. Cold and wet sensation in the ears.

Nose.—Red and swollen, with nostrils sore, scurfy and sometimes bleeding. Coryza, with discharge abundant, usually thick and sometimes corrosive, with much sneezing. Worse at night, from damp weather, and from changes to either cold or warm air.

Throat.—Uvula elongated or swollen. Tonsils dark-red and spongy. Pharynx dusky or bluish-red, often granulated, and painfully dry while the tongue and mouth are moist. Sensation of burning, rawness and stinging, with constant desire to swallow.

Mouth.—Inflamed and often ulcerated. Excessive secretion

of saliva which is often slimy and fetid and has, sometimes, a distinctive coppery taste. The tongue is predominantly moist and flabby, the edges indented by the teeth, and the surface covered with a thick, dirty-yellow and slimy, mucous coating. The gums are swollen, spongy and tender, and often recede from the teeth. The breath and the odor from the mouth is particularly foul.

Neck.—Glands frequently swollen, with or without suppuration.

Leaving now the local symptoms of mercury, as affecting the aural sphere, let us glance at the larger systemic effects of this drug, which often have a deciding influence upon its choice in individual cases. The general practitioner in making his prescription can best work from generalities to particulars, but the aurist in choosing his remedy must usually reverse this rule and work, perforce, from particulars to generalities. He first examines the ear itself and notes the objective appearances. Next he elicits by questioning all possible subjective symptoms relating to the local condition. Lastly, if he is wise, he takes into account the general systemic indications, and this may finally determine his selection of one drug from several which seem applicable to the case. Mercury presents for his guidance in this larger field of action four prominent keynotes and four leading characteristics in the second rank of importance. Keynote No. 1 is the aggravation of all symptoms by *changes in temperature.* It is the *change* which is to be noted; whether it be from heat to cold or from cold to heat the effect is the same—a marked aggravation. Keynote No. 2 is the fact that all symptoms are *worse at night*—more decidedly worse than with most other remedies. Keynote No. 3 is *profuse perspiration which does not relieve.* It is a copious, slimy, oily perspiration, which at times may even aggravate the symptoms. Keynote No. 4 is *an offensive odor* of the mercurial patient which may permeate the entire room, arising especially from the fetid breath and from the perspiration. The four lesser characteristics are *tremor,* particularly of the hands, head and tongue, associated with weakness or exhaustion; the *tendency to pus formation; inability to lie on the right side,* and *tendency to catch cold.*

So much for the general pathogenic and clinical action of mercury upon the ear and associated organs, and the still more general systemic indications for its choice as a remedy in the course of

aural disease. There are, however, various preparations of mercury which are employed as remedies, and these different salts, commonly grouped as the "mercurials," have quite distinctive clinical uses in aural as well as in general practice. It is the special purpose of this paper to indicate the province of each of the principal mercurial preparations in the treatment of diseased conditions of the ear and associated parts.

At the outset it is to be noted that mercury is applicable to both catarrhal and suppurative diseases of the ear. The catarrhal, as the milder group, will take precedence in consideration.

First, then, the aural condition calling for mercurius which arises from an ordinary coryza, or cold in the head. The discharge from the nose is abundant and thick, often yellowish in color, and is easily blown upon the handkerchief. It may have been of this character from the first inception of the attack or it may have begun as a thin, watery fluid, with much sneezing, and become thickened after two or three days' continuance. In either case, when it reaches this stage, I use mercurius, and here I choose mercurius dulcis, in the third or sixth decimal trituration, according to the age or susceptibility of the patient. During the fluid stage, when that occurs first, I prefer arsenicum iodide, or cepa or euphrasia, and during a later stage, when the naso-pharynx becomes loaded with a still more abundant and still heavier and more strongly yellow secretion, easily cleared, I prefer the muriate of hydrastin, in the third decimal trituration. The condition calling for mercurius dulcis is thus midway between these two states, as regards the nose and naso-pharynx. From this point there is extension, through the Eustachian tubes, to the middle ear, with deafness always, and tinnitus often, and autophony sometimes. There is never the pain and inflammation and rise of temperature which characterizes an acute catarrhal inflammation of the middle ear by extension from the naso-pharynx, and which calls for belladonna or gelsemium. It is a sub-acute condition at most, tending toward a chronic rather than an acute outcome, and the tympanic cavity itself shows little actual invasion or local exudation. In typical chronic catarrh of the middle ear I think I depend less upon mercury than upon other remedies—save for acute exacerbation. It is my belief, however, that this remedy exerts a protective influence upon the middle ear during the course of a head-cold beyond that

of any other remedy with which I am acquainted, and when my patients with chronic catarrhal disease of the middle-ear are liable, as they all are more or less, to an exacerbation of their condition during a coryza, I always see that they are provided with mercurius dulcis to be used, instead of any other remedy whatever, during the continuance of a coryza of the nature described above. This is definitely to secure its protective action upon the middle-ear as much as to mitigate and shorten the nasal attack itself.

The involvement of the Eustachian tubes in this condition calling for mercurius dulcis is well marked and characteristic, but it is of relatively short duration and sub-acute nature. There frequently occurs a condition of the tubes, perhaps following the dulcis stage, which is far more stubborn and long lasting, and tends strongly to become chronic, while the accompanying catarrhal state seems largely limited to the tubes themselves—the tympanic cavity on the one hand and the naso-pharynx on the other being comparatively little involved. Our English cousins speak of this as "tubal catarrh." For this condition I use either mercurius protiodide or biniodide, the former in the second decimal and the latter in the third decimal trituration. I make the old-fashioned distinction between them of choosing the protiodide for cases worse on the right side and the biniodide for those worse on the left side; and, had I time I think I could present a reasonable explanation for this choice. As an aid in restoring the patency of the Eustachian tubes by inflation, either by the Politzer bag or the catheter, I find the action of these iodides of mercury of very great service.

There are occasionally cases in which the dulcis condition leads on to a downward extension toward the chest, as the ear and upper air passages clear, with the development of a cough. A marked characteristic of this extension is a feeling of rawness behind the sternum. When I see this developing I substitute mercurius solubilis for the dulcis, with frequent benefit to my patients, though this state is apt to develop into a cough which requires bryonia or phosphorus or some quite different remedy, the choice of which I leave to the family physician as the aural condition improves.

Leaving the milder catarrhal affections let us now glance at the more severe suppurative diseases of the ear for which we employ mercury as a remedy. These we find seated in the external auditory canal, and in the tympanic cavity when exposed by a per-

forated drumhead. While a circumscribed inflammation, leading to the development of a furuncle or to abscess-formation, is within the action of mercury, we usually prefer to choose, instead of it, either belladonna or picric acid in the incipient stage, or hepar in its later development. In either acute or chronic diffuse inflammation of the canal, however, we find mercury a sheet-anchor, and for this purpose, and for all suppurations, I myself employ mercurius solubilis, though others choose the vivus with identical therapeutic results.

In acute suppuration of the middle-ear, when the discharge is first established, mercury becomes applicable, but, in this early stage, preference is likely to be given to pulsatilla or hepar sulphur. Perhaps a choice may have to be made between hepar and mercury and, in that case, when the tenderness about the ear is distinctly localized, especially in front, it indicates hepar, but when more diffused over a larger area, and extending down the neck, it indicates mercury. A comparatively bland discharge indicates hepar, while a tendency to become more corrosive, offensive and perhaps bloody indicates mercury. Here the well-known keynotes of mercury will finally decide the choice.

It is in chronic suppuration of the middle-ear that mercury really comes into its own, being far oftener indicated than in acute suppuration. Here the nature of the discharge, the appearance of the tissues, and the accompanying keynotes and lesser characteristics build up such a picture of this drug, as already seen in its symptomatology, that the veriest tyro will have no hesitancy in prescribing it. It must, of course, be supported in its action by local cleanliness and disinfection, by drainage and, as soon as possible, by dryness, and thus aided it becomes one of the most potent and dependable agents at our command in combating this disease.

There are ten other mercurial preparations which have been used in medicine. One of these, the bichloride of mercury, or mercurius corrosivus, used to be employed by the late Dr. W. H. Winslow, of Pittsburgh, in aural cases of unusually severe or acute nature, but I know of no other aurist who relies upon this preparation internally, its sphere of action belonging distinctively to the intestinal tract. Locally, we have all tried this bichloride of mercury, in solutions of from 1:2000 to 1:5000, as a germicide in suppurative conditions of the external canal and middle-ear, but,

in my own practice, I soon abandoned it for other germicidal agents. I also, at one time, used locally the yellow oxide of mercury, 2 per cent., for certain conditions of the external canal characterized by excessive itching. I got good results from this but have since come to prefer, for the same conditions, a cerate made with plantago 25 per cent. and boric acid 12½ per cent. The other salts of mercury are rarely used by any physicians at the present day.

In closing this paper let me express the hope that, although it contains nothing new for my fellow aurists of ripening years, it may prove of service to younger men who are building up their own experience. It will, at least, serve to them and to all my colleagues as an affirmation of my confident and increasing dependence upon the beneficient action of this, and of other internal remedies, in the treatment of aural diseases *when properly chosen,* and this after an active personal experience of thirty-six years as a specialist in their employment.

Discussion

H. D. Schenck, Brooklyn, N. Y.: Again Dr. Bellows has put us all under great obligation through his fine analysis and differentiation of the preparations of mercury and their indication in aural disease. To a homœopathic society no apology is needed for presenting facts that must be of use to every member who is treating diseases of the ears, whether they be exclusionists or general practitioners. These papers must always have the first place. I have used mercury, especially solubilis, in suppurative and catarrhal conditions of the ear. Many times when I have found it difficult to elicit any typical symptoms, either in the ear or generally in chronic catarrhal diseases, I have been led to differentiate between mercury and kali mur. by the throat symptoms which the late Dr. Henry C. Houghton gave me when a student. He suggested that when the throat was red and mucous membrane somewhat thickened, that mercury was the drug, while kali mur was more likely to produce results if the throat were pale and the membrane thinned instead of thickened. Many times where the tonsils were involved the yellow or red iodide has proved useful, according as to which side was affected, and whether any specific history was found to especially indicate rubra.

Some classical but helpful symptoms of mercurius, especially in suppuration, are the enlarged and sensitive cervical glands which may accompany sudden colds. The discharge is fetid, whitish, or mingled with blood. The tearing pains are worse at night and by lying on the ear in bed.

An indication from the discharge is the metallic or coppery odor of the secretion. These are symptoms not mentioned by Dr. Bellows.

I have been much interested in Dr. Bellows' statement that during a "bad cold" merc. dulc. exerts a protective influence upon the middle-ear beyond any other remedy, through its influence to shorten the attack of nasal catarrh. I have never so used it.

Dr. Houghton called attention many years ago to the beneficial effect of merc. dulc. upon closed eustachian tubes which Dr. Bellows mentions as very characteristic. The latter's use of the biniodide and protiodide in tubal catarrh of a severe type is also new to me.

Dr. Bellows' paper deserves careful study, and if it has such careful work put upon it, there is sure to result an increased efficiency in the treatment of all sorts of aural diseases.

ABSTRACTS.

INTERPRETATION OF WASSERMANN REACTION OF BLOOD SERUM IN MENTAL DISEASES.—*Jour. A. M. A.*, Feb. 5, 1921. Since many important conditions of interest to the ophthalmologist and otolaryngologist are intimately related to neurosyphilis, the conclusion reached by J. Allen Jackson and Horace Victor Pike should prove valuable. They conclude that:

1. A positive Wassermann reaction of the blood serum alone indicates nothing further than that the individual has come in some manner in contact with the syphilis, either hereditary or acquired. It does not mean that the mental disorder from which he suffers is due to syphilis.

2. A diagnosis of neurosyphilis should be based on definite neurologic signs and spinal fluid reactions, irrespective of the readings of the blood serum.

3. Psychoses in which there is a positive Wassermann reaction of blood serum, but showing no other serologic, neurologic or clinical evidences of syphilis, do not demand antisyphilitic treatment for the reason that such treatment will not modify the mental condition; furthermore, neurosyphilis is seldom if ever superimposed on a well-developed phychosis.

4. General systemic syphilis, as shown by a history of infection, clinical signs and positive Wassermann reaction, should be treated as such, but not with the view of favorably influencing the psychosis.

5. Antisyphilitic treatment avails nothing in well-advanced cases of general paresis or tabes dorsalis.

6. Cerebral, cerebrospinal and spinal syphilis are amenable to treatment, and antisyphilitic therapy should be pushed to the limit.

7. Successful treatment of neurosyphilis resolves itself into the early recognition and therapeusis of the infection, and lies largely in the hands of the general practitioner and syphilographer; all syphilitics should be kept under routine observation for a period of at least ten years in order that vigorous treatment may be instituted at the first sign of involvement of the central nervous system.

W. G. S., Jr.

Nature and Treatment of Strabismus.—After considering this important subject from several angles Charles Delogé, of Nice, France, concludes as follows: "Owing to its double nervous and optical origin convergent strabismus requires a treatment that is long and particularly delicate to establish, but in which re-education of binocular vision is essential." Dr. Delogé takes exception to the opinion of a great number of excellent oculists, who believe divergent strabismus can only be relieved by surgery, and holds the contrary to be the truth. It is his belief that the first conditions of treatment are an exhausive study of each case, and a profound knowledge of facts.—*Amer. Jour. of Ophthalmology*, June, 1921.

W. G. S., Jr.

Metastatic Infiltration of Cornea (Ring Abscess).—In reviewing all the reported cases of ring abscess, Albert C. Snell, of Rochester, N. Y., reports that "in addition to the infected cor-

neal wound or remote focus of infection, there is almost invariably present a decided low vitality." Dr. Snell believes this to be an important etiologic factor in the causation of infiltration ring abscess. —*Amer. Jour. of Ophthalmology,* June, 1921. W. G. S., JR.

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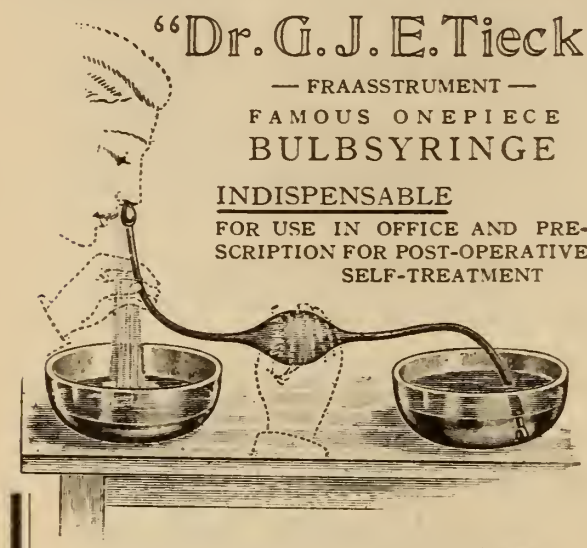

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Editorial

THE OTOLOGISTS, NEURO-OTOLOGISTS AND NEUROLOGISTS

OTOLOGISTS just before the close of the last century did not command quite so much respect in the profession as did the specialists in other lines, due in part to the generally unsatisfactory results obtained in the treatment of deafness and to the high mortality rate following operations on the mastoid. Since then our knowledge has increased very materially through the efforts of the leading otologists, aided principally by physiologists, pathologists and rhinologists. The physiologists contributed materially to our knowledge of the physiology of the non-acoustic labyrinth. The pathologists aided very materially in uncovering the failures from operations on the mastoid. Sir William MacEwan had already advanced the subject very materially as far back as 1893, especially in the field of intracranial complications of middle-ear suppuration. Politzer had contributed his share in separating so-called otosclerosis from the more common middle-ear conditions. Hajek, with the co-operation of Zuckerkandl, laid the foundation for the better understanding of the anatomy and pathology of the nasal accessory sinuses. Barany, the otologist, made practical use of the discoveries of the physiologists, Ewald, Breuer, Kreidl, Kubo, etc., in the translation of abnormal vestibular reactions into pathologic entities. Otology became, instead of a humdrum affair, boresome to the average individual who drifted into the field, a science, for exactness outranking most of the other branches of medicine. Some men who have entered the field in the last decade have been so intoxicated with the wonders of the subject that they have been completely carried off their feet and have rushed in helter-skelter to snatch the standard from those better qualified and who have borne it so successfully in the past. These

usurpers, and we find them in every field of endeavor, resort to those methods best known to the politician and his henchmen. This meddlesomeness can only bring upon the otological profession a bad repute, the brunt of which must be borne by it as a whole. It, therefore, behooves us to garner the well-earned grains of truth and allow the chaff to go to the winds.

Neuro-otologists is the appellation by which they have elected to designate themselves. If the neurologists who have been scoring them so hard will keep in mind the fact that these men are neuro-otologists and not otologists, we otologists may yet be able to save our faces. A greater knowledge of neurology on the part of otologists should be encouraged as well as a greater knowledge of otology on the part of the neurologist. It is possible that a good otologist might also be a good neurologist, and vice versa.

If we concede that the possession of a little knowledge of anything is dangerous, then it follows that the addition of a little more knowledge of the same thing results in greater knowledge, hence less danger. On the other hand, if a little knowledge of anything is dangerous it follows that the addition of a little knowledge of other things results in more danger and not more knowledge.

Applying the same reasoning to the subject at hand: If a little knowledge of otology is dangerous the addition of a little more knowledge of otology results in a greater knowledge of otology which is less dangerous. Furthermore, if a little knowledge of otology is dangerous, the addition of a little knowledge of neurology results in more danger and not greater knowledge.

A good neuro-otologist can never be made by adding a little knowledge of otology and neurology together, but only by adding a great deal of one to a great deal of the other. A good neuro-otologist ought to know more about otology than the average good otologist, and more about neurology than the average good neurologist. From the present indications he has not yet arrived.

As otologists pure and simple we have reason to feel grateful for the position we have won, especially when we compare our results with those of the neurologists. Within the last few days the editor has had occasion to look up the subject of myasthenia gravis. Among other works he came across a textbook on nervous and mental diseases, the ninth edition of which was written in 1919 by two prominent American authors. The names are withheld for fear

of giving offense where there is no intention to offend; besides the responsibility does not rest with them but with the neurological profession as a whole which has been rather prone of late to discount the work of the otologists, so far as it applies to the study of the non-acoustic labyrinth, VIII nerve and its pathways, as presented by the neuro-otologist. The following is a verbatim quotation taken from the textbook on neurology:

"The condition in most instances has terminated fatally; but no changes in the bulbar nuclei were discovered. Apparently the deficit or toxic effect had not reached a degree sufficiently intense to produce cell-changes that were observable under ordinary methods of examination. In a case reported by Widal and Marenesco disintegration of the chromophilic elements was demonstrated by the Nissl and Marchi methods. Goldflam found widespread and decided changes in the muscles. This case and one reported by Long and Wicki presented preceding chronic pulmonary septic conditions; and this association is probably not common. The asthenia of phthisis pulmonalis may run into a grave myasthenic condition, as I have seen in one case which presented all the characteristic bulbar features. Laquer and Weigert have also noted widespread changes in the muscles apparently secondary to thymus disease. Laquer reports a case followed by progressive spinal muscular atrophy. Senator suggests a relationship to various depraved blood states. Remak refers to a case of associated Graves' disease. Feinberg reports a case in which stercoremia was present and the asthenic symptoms retreated upon its relief. A persistent and enlarged thymus gland has been found so frequently, generally in association with widespread intramuscular infiltration of cells of a lymphoid character, that more than a casual relation seems to be implied between the myasthenia and the glandular state. Von Ketly, after a study of 134 cases with 42 autopsies collected from the literature, concludes that a neuropathic heredity is practically the only common antecedent, that the nervous system is intact, and that the muscles are the seat of the disease, which is the result of some auto-intoxication. Csiky finds that the reported cases of this lymphoid state may be divided (1) into such as present a primary tumor in some part of the body and (2) those which have no such association. The second group is much the larger. Buzzard has found the lymphoid infiltration in the heart, liver, adrenals and

thyroid. An intimate relation of the disease to exophthalmic goiter and associated disorders of the glands of internal secretion is emphasized by Stern."

We may fairly ask of the neurological profession to show the otological profession anything in any textbook of otology to compare with it for uncertainty and contradictions. G. W. M.

REVIEW

Epidemic Respiratory Disease.—The Pneumonias and Other Infections of the Respiratory Tract Accompanying Influenza and Measles. By Eugene L. Opie, M.D., Francis G. Blake, M.D., James C. Small, M.D., Thomas M. Rivers, M.D. Illustrated. Published by C. V. Mosby Co., St. Louis, 1921. Price, $6.50.

The epidemic of respiratory disease in the army camps during the World War, sad though it was, afforded more than unusual opportunities for the intensive study of this class of cases, and the authors have availed themselves of this opportunity to the limit of their ability, with the result that they have added much to our knowledge of this important branch of medicine, to the profit of the profession and the benefit of humanity. Every progressive practitioner of medicine should acquaint himself with the contents of this valuable contribution to the medical literature. G. W. M.

CORRECTION

Error: Page 237, July Journal, Abstract, "Mastoiditis with Severe Complications, etc." The dose of neosalvarsan used was gms. 0.15, not gms. 15. The latter dose would be quite sufficient to kill a number of children. W. G. S.

DRESSINGS AND AFTER-CARE FOLLOWING INTRA-NASAL SURGERY *

I. O. Denman, M.D.,

Toledo, Ohio

THE science of rhinology is yet in its teens. Of our specialties eye, ear, nose and throat it constitutes the junior member. Practically all of its development has been made in the last twenty or twenty-five years. During that time it has forced its way to the front, so that medical and surgical men in all lines are very glad to recognize the importance of the early recognition and proper treatment, medical or surgical, of the nose and its accessory sinuses, as a factor in restoring and preserving health.

Its developmental period has been so rapid that it is not surprising that certain niceties and minutiae have in the hands of good men been overlooked. In order to come within proper limitation I have been content to pass over many phases of this subject which might prove interesting, to discuss the care following intra-nasal surgery, to which I think we should give much attention.

In order to bring the subject of my short paper before you in a manner which will set it forth clearly for your discussion, I wish to make the statement early that I am opposed in the main to all forms of intra-nasal packing following surgery. My arguments against it may be summarized under five headings.

First: It is productive of discomfort and trauma.

Second: It is conducive to infection.

Third: Instead of controlling hemorrhage it is apt to favor it.

Fourth: Cicatricial tissue is increased and healing delayed.

Fifth: The end-results are impaired by a condition of dryness, or at least diminished moisture, and a disagreeable, objectionable mental attitude of the patient towards nasal surgery.

The nasal mucosa is highly sensitive and has an abundant nerve and blood supply. Thus the presence of any sort of packing

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

acts as a foreign body, and in conjunction with the erectile tissue to be found causes swelling and extreme discomfort as when the accidental presence of a foreign body is found. Still, should a local anesthetic have been used the patient is fairly comfortable for an hour or so afterwards. Then the effects of the narcotic having worn off, the pressure causes the nostrils to swell upon the packing, increasing the pressure. Therefore headache develops, and not infrequently a temperature-elevation ensues and the patient becomes very miserable indeed. Should both nostrils be packed at the same time the difficulty in swallowing, and pressure produced by so doing, is very apt to force infection up the tubes causing the complication of middle-ear infection; and in not a few instances acute mastoiditis with necessary operative measures has occurred, due no doubt entirely to the impervious nasal packing.

By reason of the fact that the nasal mucosa is so hypersensitive and intolerant to mechanical irritation, surgical work should be very carefully performed so as not to traumatize areas other than the one under treatment. Such precaution and the absence of packing of all kinds therefore minimizes the reaction.

Sterilization of the nose, as you well know, is almost an impossible thing to accomplish. When working at Harvard Medical I witnessed in the research department an attempt to procure a pure culture of secretion from the frontal sinus which they desired to use in the manufacture of autogenous vaccine. The difficulties of their experiments would require a whole page to tell you about; making it a practical certainty that any surgery we do within the nose is necessarily done without the strict aseptic field which we secure elsewhere, and which we should like to do with the nose if it were possible.

Infection may be then carried into the operative field by the instruments passing through the anterior nares, which is difficult to sterilize, augmented by the secretions within the sinuses which ooze out into the nostrils. It would seem apparent then that the best interest of the patient would be safeguarded by allowing free and unresricted drainage from this field to the outside, rather than the risk of shutting up this infection with impervious packing between the infected area and the outside world. This is especially necessary in all ethmoidal work wherein the infection lies near the floor of the brain, and it is perfectly possible, and we know of

instances where intracranial invasion has occurred through the cribiform plate of the ethmoid bone.

I am anticipating a challenge of my statement in regard to the control of hemorrhage. Packing, especially the gauze strip, when packed into a turbinotomy, for instance, and allowed to remain for twenty-four to forty-eight hours, in my experience often becomes an avenue for the escape of blood from the stump by capillary attraction, the same as oil goes up the wick of a lamp. Such patients will drip, drip, drip blood through the gauze until the packing is removed, when, to the surprise of the patient, and operator, too perhaps, within a few minutes a clot is formed, and bleeding practically stopped. Furthermore, if this same packing is allowed to remain as long as forty-eight hours, as I know is done by some surgeons, nature's reparative processes have started sufficiently to push the new granulations into the meshes of the gauze, and in its removal not only excruciating pain is caused, but a profuse hemorrhage, much more than occurred during the operative period follows.

It is the practice of some operators to have this entire episode repeated by replacing another gauze packing and removing it in forty-eight hours, and to my knowledge the third packing is sometimes inserted, each time coming away followed by blood and a consequent prolongation of the healing process. Such cases afterwards present a vast amount of unnecessary cicatricial tissue, and we know that the more scar-tissue that is formed the less normal mucus-secreting surface the individual has. Therefore, the trauma in such cases, in connection with the scar-tissue, is in my opinion the leading factor in such cases as complain, following surgery, of having dry noses with crust-formation and ofttimes some odor—the whole thing constituting in the laity's mind a big objection to having any further surgery done themselves, and putting them in the mental attitude of discouraging nasal surgery of any kind upon the part of their friends.

The moist blood-clot dressing, which was up for discussion some ten years ago in connection with mastoid surgery, and which was eventually thrown in the discard by most operators, is in my opinion, the ideal nasal dressing. This statement is based on experience of fully ten years in doing the usual amount of surgery which comes to one in my work without packing, which was

preceded by another ten years of experimental use of most of the various kinds of packing proposed.

Given a patient whose coagulation-time is normal, and none others should be operated upon, a little instruction on the part of the surgeon and co-operation on the part of the patient leads very quickly to the formation of the clot within the nostril, which is the only sterile dressing that it is possible to use. This blood, of course, comes directly from the vessel, and the first part of the clot is pushed away by the blood as it exudes from the cut surface, so that when hemorrhage stops the blood-clot is formed with absolutely sterile blood in contact with the incised surface. This is protected by the patient not blowing the nose, and avoiding sneezing, if possible; and if it is necessary, to throw the force of the expiration out through the mouth instead of the nose. Hard rolls of cotton put in the anterior nares can be changed when they become saturated. No douches or sprays are to be used for twenty-four to forty-eight hours. The clot becomes organized and is very soon found ready to slip away, leaving the surface already almost entirely healed over. To such a patient the after-dressing is practically nothing. There is little pain following the operation because the anesthetic lasts long enough for the acute pain from the incision to subside. There is no discomfort or pain from the presence of anything mechanical in the nose to become irritating and act as a foreign body. There is no pain absolutely from the first, second or subsequent dressings. It is merely a matter of keeping the nostrils cleansed, usually followed by some volatile ointment or oily spray or vapor which favors the desquamation.

The only exception to this rule of procedure in my practice is in the submucous resection of the septum, where the flaps are pressed gently together by the insertion of the Bernay splint in each nostril up against the septal mucous membrane flaps. And these thin splints are held together by a small spring, clothespin fashion, out around the fraenum of the nose. This admits of some small degree of respiration in most patients and some ability to cleanse the nostril, by gently blowing, or heavy inspiration expectorating the discharge.

Finally, the agreeable after-effect is an important factor in establishing nasal surgery in higher favor among the laity. When you thoroughly anesthetize a patient's nose so that there is no pain

during the operation, and no pain or discomfort or headache or middle-ear complication following the operation; absolutely no pain or hemorrhage from any of the dressings, with a complete recovery in from five to eight days afterwards, that patient has a kindly feeling towards you and towards nasal surgery, and is going to be a booster for it in the future instead of, as is too often the case, a knocker.

I have in mind several patients who had started to have some work done on both sides of the nose, and had had an operation with packing on one side, and would go no farther with their surgery. Later, from some ear complication or hay-fever or something, they would be induced by their physician or perhaps by themselves to seek relief. Such patients, after their second nostril has been taken care of *without* packing, furnish the best evidence of the status in which the laity holds the different surgical dressings.

Discussion

J. Ivimey Dowling, Albany, N. Y.: Dr. Denman's discussion of "Dressings and After-Care Following Intra-Nasal Surgery" is instructive and of considerable value coming from one who has had so great an experience. His procedures and advice are eminently safe for the novice surgeon to follow, as by so doing he could hardly come to grief because of ill-advised dressings. The majority opinion at the present time, I believe, is to the effect that the less dressing after intra-nasal operations the better. However, there are occasions on which a dressing of some kind is essential. The license of the discussor will permit me to refer to epistaxis. A method which I have found somewhat satisfactory for its relief is the placing of Cargile membrane over the bleeding point, even when the origin of the epistaxis is an ulcerated septal surface with rupture of some vessels.

My method is to cut a portion of the membrane about twice the size in area of the ulcerated surface, picking it up by its center and laying it upon the bleeding point, after first having controlled the hemorrhage as well as possible by pressure. It may be necessary to make this effort several times and occasionally many times before the membrane will adhere, but when this has been accomplished the bleeding has then been controlled and the membrane will

remain *in situ* sufficiently long to permit healing of the part. To me this has proven more satisfactory than cauterization.

Concerning septal operations it is my habit to unite the original incision by a mattress suture through from one nostril into the other, and back again into the first nostril. I make use of a small-eye needle for the purpose and find this method a great aid in promoting primary union. I have discarded all manner of needles except small-eye needles for the sewing of septal wounds.

If the mucous membrane of the septum has been greatly torn or cut posteriorly, I merely replace it when the operation has been completed and make use of *gutta-percha splints*, which are placed on both sides of the septum and retained by either a single or double suture passed through the two layers of gutta-percha and the intermediate tissues. This is particularly beneficial where the membrane has to be incised low down in order to remove irregular ridges of vomer. These splints may be retained by the placing of cotton pledgets along the floor, which may then be removed at the end of ten hours.

If it has been necessary to perform a middle turbinectomy, I make use of very large cotton tampons saturated with argyrol (40 grs. to the ounce). These are inserted high up, taking the place of the middle turbinals and in contact with the ethmoid regions. These are removed at the expiration of ten hours, and if the nose has been considerably infected there are usually found large strings of mucus adhering to the tampons upon their withdrawal.

Operations upon the inferior turbinate are rare, but yet when performed I find it wise to use some form of packing for a brief time. I usually make use of a long Bernay splint, first coating it with vaseline before inserting it over the parts involved.

Another method which I employ after the use of the gutta-percha splints is the placing of a suitable-sized catheter in the nostril between the gutta-percha and outer nasal wall. Many holes should be cut in the catheter in order to afford drainage and permit irrigation. This particular dressing I believe meets with the requirements of surgery as applying to any part of the body.

To the cotton tampon saturated in argyrol I have given the name "Non-Surgical Surgical Dressing," for I believe most surgeons would consider it non-surgical, and yet I have found it to be to the contrary for it is not only safe, but it is of surgical benefit.

After an extensive operation upon the maxillary antrums I make use of uterine gauze saturated in argyrol, permitting one end to almost protrude from the nostril. This dressing I have found very serviceable in conditions of this kind, I think preferable to leaving the parts without packing.

In employing packing within the nose it must be remembered that *we are dealing with parts that are positively and dangerously infected, and so if packing is used it must accord with general surgical principles, namely, it must promote capillary attraction and act practically as a siphon. Therefore, there should always be a sufficient amount of the packing protruding from the cavity as will permit continued siphonage.*

I consider the nature of the infection to be the chief guide as to the kind of after-dressing to employ, and I believe that most sequelae following intra-nasal surgery result from the fact that no attempt is made before operation to render the nose sterile; so I wish to emphasize the fact that in many cases of this type before operating it is wise to employ preliminary intra-nasal treatment in order to render the parts as sterile as possible.

Neil Bentley, Detroit, Mich.: I was quite interested in Dr. Denman's remarks in speaking of the after-care of submucous cases. I have been in the habit of packing such cases on both sides, and not merely on the one side. I expected that there would be more or less discomfort; but what rather surprised me was the tremendously less amount of hemorrhage that was obtained by packing on one side only. It was a frequent occurrence for patients to call me up, when I packed on both sides, and say that they had had a lot of hemorrhage and were frightened. I have had very little hemorrhage when packing but one side. Mosher is very emphatic on not packing after sinus operations. He would expect the case to end in the morgue if packing were used after sinus operations. That was the statement he made, but he probably did not expect to be taken quite literally.

One little feature that I would mention is the question of the applicator. Many men, in using an applicator, figure on twisting on the cotton as they go along. I have my applicators made by the nurse before the operation, and sterilized; so that I have them ready for use during the operation. This saves time, and you are using what you know is sterile. You cannot make the applicators as you

go along and have them sterile, but you can have them sterilized prior to the operation and use nothing but sterile applicators.

I. O. Denman: I have nothing to add except to express my appreciation of the kindness with which the discussers handled the paper.

Objective and Subjective Tremors as Functional Disorders Due to Eyestrain.—After covering the subject of objective and subjective tremors in a most thorough fashion, W. W. Kahn, M.D., concludes with the statement: "It seems incredible that such a frequent eyestrain symptom as simple functional tremors has not as yet found its way into the medical literature, more so as it is so easily proved to be due to uncorrected anomalies of the refractive system."—*American Journal of Ophthalmology*, June, 1921. W. G. S., Jr.

TUMOR OF THE ORBIT IN A CHILD OF SEVEN YEARS. REMOVAL BY MEANS OF ELECTRO-THERMO COAGULATION *

Joseph V. F. Clay, M.D., F.A.C.S., & Walter C. Barker, M.D.

Philadelphia, Pa.

TUMORS of the orbit form about 50 per cent. of all orbital diseases, and in children occur next in frequency after tumors of the eyeball. They may originate in structures within the orbit (optic nerve sheath, periosteum of the orbital walls, the cellular tissue or the lachrymal gland), or they may invade the orbit from the nasal accessory cavities (antrum of Highmore, ethmoidal cells, or frontal sinus). Neoplasms invading the orbit from the nasal accessory cavities may attain considerable size before encroaching upon the orbit, and this materially influences the prognosis and treatment.

Tumors of the orbit may be of fluid or solid nature. Fluid-like tumors usually arise from the nasal accessory cavities; solid tumors are usually malignant and frequently spring from the maxillary antrum, sphenoidal sinus or the ethmoidal cells.

Dermoids are usually round, monolocular and have thick walls. They usually occur outside the muscular funnel and favor the anterior inner side of the orbital cavity. They grow slowly but attain considerable size. Like dermoids elsewhere, they contain epithelial elements, fat cells, teeth and chalky deposits.

Congenital cysts occur with micro-ophthalmos.

Echinococci of the orbit are very rare and present constant ciliary neuralgia.

Cystericus is rare and occurs in the anterior part of the orbit. It presents as a fluctuating tumor with redness and sensitiveness of the skin of the lids.

Angiomata of the orbit are always congenital, and are associated with a similar condition of the eyelids and neighboring skin. They occur as soft, compressible prolongations, or talangectases,

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

into the orbit. They are painless, grow slowly, pulsate, and interfere little with the movability of the eyeball.

Lipoma of the orbit is very rare and must be differentiated from hypertrophy of the orbital fat.

Tumors of an epithelial character—carcinoma and adenoma, arise from the lids, lachrymal gland, or from the eyeball, or they occur as extensions from some of the neighboring cavities.

Connective tissue type of orbital tumors, the sarcoma-fibromyxo and cysto, are usually solid tumors presenting uneven surface; do not fluctuate and have no connection with the brain, lids or eyeball. They originate in some of the cavities and extend to the orbit. In rare instances they appear as metastatic growths. Melanosarcoma occurs as a growth from the choroid or subconjunctival tissue or from the skull.

Plexiform neuroma of the orbit are congenital and very rare. They favor the upper outer angle of the orbit near the lachrymal gland and displace the eyeball forward, downward and inward.

Cysto and osteosarcoma and osteoma spring from the walls of the orbit.

This clinical knowledge of the occurrence of orbital tumors is suggestive in arriving at a diagnosis.

Exophthalmos is the most common constant prominent symptom of orbital tumor. The degree of protrusion of the eyeball enables us to draw some conclusions as to the size of the growth. Tumors springing from the apex of the orbit produce a slower protrusion of the eyeball than those arising from more forward positions. The location of the growth is suggested by the direction of the exophthalmos, this being on the side opposite to that of the protrusion of the globe.

Limited motility of the eyeball is observed and may be due either to purely mechanical interference or diminished muscular power.

Ptosis is observed in tumors of the upper part of the orbit.

Pulsation of the eyeball is present in angiomata, encephalocele, angiosarcoma and also in orbital aneurisms.

Disturbance of vision occurs as a result of an artificial hyperopia through a flattening of the eyeball.

Early ophthalmoscopic examination may be negative. It is only through continued and extreme pressure that the circulation

is interfered with, and fundus changes are seen. The retinal veins become engorged, the arteries narrowed, and hemorrhages occur in the retina. Primary atrophy of the optic nerve may occur.

The case we wish to report is that of a male child, seven years of age, who was brought to us March 11, 1920. The only history of previous eye-trouble was that of ulceration of both eyes at the age of two-and-a-half years. The boy is the third child in a family of five. There was no history of injury. The present eye-condition, according to the mother's statements, began three months ago, when she noticed a swelling of the right lids. This gradually increased without any apparent discomfort to the boy.

Examination of the child May 11, 1920, was as follows: Male child of seven years with subnormal mentality, under-weight, but not particularly anaemic. The right eyelids were very slightly oedematous; the right eyeball was proptosed slightly upward and forward; the conjunctiva of the globe was chemotic in the lower temporal area. There was very little associated injection. The motility of the eyeball was restricted in all directions, the greatest excursion being that of adversion. Abversion was practically absent. (This observation suggested localization of the tumor in the lower outer part of the orbit.) The cornea and iris were normal and the pupillary reactions were sluggish. The vision in the right eye was reduced to perception of gross objects at twenty inches. No bruit was present. Replacement of the eyeball was not possible. The tension was normal and equal with that of the left eye. The fundus showed large dilated veins with many hemorrhages throughout the retina. The arteries were small, and a marked paling of the optic nerve-head was observed. By palpation with the finger along the lower temporal edge of the orbit, a spongy nodular mass was found. The nose was negative and the faucial tonsils were very large and free. Wassermann examination made by Dr. W. J. Felsburg, was negative. X-ray examination revealed a circumscribed increase in the density of the shadow of the right orbit. The floor of the orbit was pushed down into the antrum but the shadow of the antrum was normal. From the findings a diagnosis of tumor of the orbit was made.

Three days after the first examination there was a marked increase in the chemosis. It was no longer confined to the lower outer quadrant, but extended along the entire lower half of the

eyeball. Palpation of the mass at this time gave the impression of fluctuation. A paracentesis was performed, using a large trocar, but nothing was recovered. This was rather convincing that we were dealing with a solid tumor of the orbit and that in all probability it was malignant.

We advised immediate exenteration of the orbit, but owing to an outbreak of diphtheria in the children's ward, we were unable to proceed for ten days. During this time the proptosis became so marked that it was possible to pass the finger around the eyeball, it being practically extraorbital.

In considering the method of attack we felt that the tumor was extensive, and that in order to satisfactorily attack it the eyeball should be sacrificed. On account of the tender age of the patient and the poor general physical condition we were disinclined to subject him to the radical exenteration of the orbit by the usual surgical procedure. Consultation with Drs. H. L. Northrop, G. J. Palen and W. C. Barker resulted in the decision to attempt the removal of the tumor by means of the D'Arsenval bipolar current.

On May 26th under chloroform anaesthesia we removed the eyeball, which proved to be free of the tumor. After the eyeball was removed, it was possible to accurately palpate the tumor. It practically filled the orbit, and was free except at the floor and outer wall, where it was intimately attached to the periosteum. The growth presented a nodular vascular appearance.

The tumor mass was removed in the following manner: One lead of the bipolar D'Arsenval current was attached to a metal pad electrode and placed upon the back, and the other lead to a needle electrode, which was introduced into the tumor. The tumor mass was coagulated and removed in pieces. The bony floor of the orbit, the site of attachment of the tumor, was coagulated.

The patient reacted wonderfully well, without the slightest surgical shock. There was no postoperative pain in the orbit but the child suffered considerably from a severe burn of the back due to the pad electrode. There was some postoperative temperature for a few days. On the eighth day large charred masses were removed from the orbit, and this exfoliation process continued until June 26th, when the orbit was clean. One area of exposed bone on the floor of the orbit presented a greenish discoloration. This

CASE OF ORBITAL TUMOR, SHOWING PROPTOSIS, SWELLING OF UPPER LID, CHEMOSIS OF THE CONJUNCTIVA AND DEVIATION OF THE EYEBALL UPWARD AND INWARD

subsequently sequestrated and was removed, completely opening the antrum of Highmore.

Examinations were made at monthly intervals. The child increased in weight and was to all intents and purposes well until a few weeks ago (one year after the removal of the growth), when he returned with the orbit filled with nodular vascular tissue. The lids are again swollen; the X-ray indicates that the orbit and antrum of Highmore are filled with new growth.

We regret that we cannot record the exact pathological nature of this growth. Through too much care in the laboratory and a change in technicians at this particular time, the tissue sent to the laboratory was lost. Clinically we felt that it was a sarcoma, and while we do not know its exact identity, its recurrence after such radical removal, is most suggestive of malignancy.

Carcinoma and epithelioma of the soft parts have been removed successfully by this method. In such cases, the growth may be encircled by coagulating the healthy tissue, and removed by enucleation, without opening the lymph- or blood-channels. Percy has shown that low degrees of heat, such as 113 degrees Fahrenheit, when maintained for ten minutes, will destroy carcinoma of the uterus. He applied the heat from hot irons in contact with the tissue. When the high frequency current is used, the heat is generated in the tissue, which is an advantage over the hot iron method.

The value of heat for the destruction of sarcoma is questionable; but the removal of the growth by this method, has the advantage of closing the blood channels, as it is a bloodless operation.

The disadvantage of treating malignant growths of the orbit and nasal accessory sinuses, is that they are surrounded by bone. When the electro-thermic coagulation method is used, it is necessary to coagulate the tumor mass, rather than the healthy tissue around the growth. The bony tissue can be coagulated just as easily as the tumor tissue, but when the bony structure is not involved, one hesitates to do this and thereby open the cranial cavity.

It may be that this method is not applicable to sarcoma, or that the failure in this case was due to removing too little of the bony floor of the orbit. When a sarcoma is removed by the cutting operation it is the rule to remove as much of the healthy bone as is practicable.

There was no postoperative X-ray therapy given. While this

is of value in the treatment or carcinoma, it seems to be of little use in that of sarcoma. The X-ray is successful, however, in many cases of sarcoma, when it is used in place of the operation.

Discussion

James A. Campbell, St. Louis: It has been my good fortune to have seen a large number of these cases in the thirty years that I was connected with the Children's Hospital, as well as in my private practice. I have had fifty or sixty of them. I have reported to this association several such cases. In a number of instances, the tumor extended beyond the orbit—cases of sarcoma, generally. I have had a number of cases where the orbit was perfectly cleaned out, and afterward there was extension to the brain, and the patients died. I have had a number in which it developed, by metastasis, in other organs; for instance, in one case there was an orbital sarcoma that was perfectly removed; but it developed in the liver, and the child died seven months afterwards of sarcoma of the liver.

That brings up a question asked yesterday, when we were speaking of treating warts by electrolysis. A Philadelphia man said that after such treatment it had a tendency to spread to the neck. These growths are constitutional affairs. I operated on one case with a tumor on one side of the face. The growth was done away with by means of electro-cauterization by another operator, and a year or two afterwards the patient developed a lesion on the other side. Therefore I think that many of these lesions are not merely local, but constitutional. At the Children's Hospital I saw many growths that were purely local, and others that were constitutional, and which could not be cured by any local treatment.

Joseph V. F. Clay: I am thoroughly in sympathy with Dr. Campbell's idea concerning the constitutional nature of malignancy, and with this in mind I remarked as the boy walked into my office, "This is probably malignant, and if we do succeed in removing the growth we have left behind the cause." I am sure that Dr. Campbell, from his extensive experience with orbital tumors in children, could give us much valuable information of their nature and clinical course.

As to Dr. Barker's method of removal of the growth, and orbital contents, I want to say that it was one of the cleanest surgi-

cal procedures I have ever seen. It was practically a bloodless operation.

Walter C. Barker: In answering Dr. Campbell's question, the reason for using the electro-thermic coagulation in this case was on account of the large size of the sarcoma. To enucleate it would have required the removal of some of the normal bony wall of the orbit. To cut into the growth would have been followed by a rapid recurrence. It was unnecessary to remove any of the healthy bone, when the growth was first coagulated and then removed.

Blocking of the Facial Nerve in Cataract Operations. —In order to overcome danger of failure in cataract operation upon those patients known as "squeezers," Major Robert E. Wright, M.B., of Madras, S. India, decided in June, 1920, to try the effect of partially blocking the facial nerve. His conclusions are: "The method saves time, puts the operator and his assistants more at ease, and facilitates the operation. It does not complicate the after-treatment in any way as the lids are not interfered with. It does not appear to affect the patient adversely."—*American Journal of Ophthalmology,* June, 1921. W. G. S., Jr.

REPORT OF A CASE OF BRAIN ABSCESS *

R. C. Cooper, M.D.,

Pittsburgh, Pa.

I WISH to briefly review with you a case of intradural temporal lobe abscess of the left side, which I operated during my hospital service of September, 1916.

Lucy P., aged 12 years, white, American born, some weeks previous to admittance began to complain of pain in the left ear, which lasted about two weeks, when pus discharge appeared. About a week later Dr. Sawers saw the child, and advised that she be taken immediately to an aurist, as he considered the condition dangerous. The mother, however, took the child to another internist, who directed boracic acid douching. In the meantime, oedema appeared over the mastoid, extending to the side of the head above and in front of the auricle; until, a week later, in the afternoon of September 11th, while sitting at the table, the child was suddenly seized with convulsions and quickly became unconscious.

The physician who was summoned said that on his arrival the convulsions were limited to the entire right side. Dr. Sawers was again called, and on arrival found the convulsions general. The patient was immediately admitted to the hospital, and I first saw her at 8 P. M., September 11th, when her condition was as follows: Temperature 98 (axilla); pulse 98; respirations 16; unconscious; frequent general convulsions; face livid; pupils reacted both to light and accommodation sluggishly, and neither dilated nor contracted; no nystagmus; swelling above, behind and in front of the left auricle with fluctuation easily demonstrable. Pus flowing from the left ear. It was impossible to test the reflexes at this time. A condition of cerebral pressure was evident, and brain abscess thought possible.

The patient was taken to the operating room and the mastoid opened, with counter incision above and in front of the auricle. About four ounces of pus was evacuated, together with consider-

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

able necrotic tissue, but the bone over the middle and posterior fossae and sinus was apparently healthy, no fistula evident, so it was decided not to expose the dura. Convulsions ceased during the anaesthesia and did not recur. The patient was removed to the ward in good condition; temperature 99.6, pulse 108, respirations 24. Bacteriological findings by Dr. T. P. Edmundson: Pneumococcus and streptococcus brevis, spinal fluid clear, not under pressure, and no bacteria present. Patient awoke at 5 P. M. rational; temperature 101.4 degrees, pulse 110, respirations 18. For the two days following operation the temperature did not exceed 100; pulse about the same; patient hungry and quite rational.

On the third day she complained of pain in both ears, worse in the right, but examination did not demonstrate any inflammatory process; temperature 101.2 degrees, pulse 120, respirations 20. Very drowsy, slow cerebration, and lack of sustained attention, going to sleep while being talked to. Laboratory report: Leucocytes 18,-360; polyneutrophiles 73 per cent., oesinophiles .33 per cent., mononuclears 26.66 per cent.

On the fourth day a slight redness of the right drum appeared; a myringotomy was performed, and the first mastoid dressing done under gas anaesthesia. Temperature 101.2, with pain alternating in the left and right ears. On the fifth day the highest temperature of the case was recorded—102.8 at 8 P. M., pulse 110, respirations 20, and the same general symptoms.

On the sixth day the highest temperature record at 8 P. M. was 101 degrees, pulse 100, respirations 18; same drowsy condition. Dressings were done on alternate days. Patient slept well every night following operation. For the next three days drowsiness was less marked and the fever lower, but on the next day the drowsiness increased and she complained of pain, mostly in the right ear.

On the tenth day a slight bloody discharge appeared from the right ear, with tenderness over the right mastoid, six days after the myringotomy. Laboratory report showed: Leucocytes 19,200; including polyneutrophiles 77.5 per cent., polyoesinophiles 2.5 per cent., mononuclears 20 per cent. Highest temperature 99, pulse 80 to 90, respirations 20 to 24. On the eleventh day the patient was very drowsy, temperature 98.2 to 98.8, pulse 72 to 92, respirations 22 to 28. She confused her sentences, but seemed to know

that she was not talking correctly. On the twelfth day she developed a partial sensory word-aphasia and was very stupid.

In consultation with Drs. Morris, Sawers, T. P. Edmundson and Metzger a diagnosis of left temporal-lobe abscess was made. Reflexes were practically normal. Dr. Metzger reported the eye-examination as follows: Pupils regular, slightly dilated, reacting to light and accommodation; slight oedema about the optic disc in both eyes, slightly worse in the right, possibly indicating intracranial pressure. Vision apparently normal. Mental stupor prevented any definite investigation. The location of the abscess was determined to be about the first and second temporal convolutions. Word aphasia was very marked at this time.

The patient was taken to the operating room at 9.45 P. M. on the twelfth day after the mastoidectomy; temperature 99, pulse 120, respirations 24. During the anaesthesia she had several convulsions confined to the right side. I performed a radical mastoid, and removed the *tegmen antri et tympani,* exposing a non-pulsating dura, dull grey in color and somewhat adherent. A vertical incision was made in the brain tissue in the direction of the probable location of the abscess, inward, upward, and backward, and at a depth of about 3 cm. approximately one ounce of a thin milky fluid was evacuated. No odor noted.

At this time the patient was very much shocked, respirations very shallow, the radial pulse could not be counted, so that a culture was overlooked; hence the reason for this case not having been reported long ago. The skin-incision was partly closed, no drain being placed in the brain incision. Five drops of adrenalin was administered hypodermically with prompt response on the part of the patient, who was then returned to the ward with temperature 99, pulse 100, respirations 18. On the following day the slowest pulse-rate of the entire case was recorded; 68 with the patient sleeping. The highest temperature was 99. Patient experienced a great deal of pain, drainage was profuse, and drowsiness still marked.

On the second day following this operation the child felt much better and could name most objects, with the peculiar exception of a lead pencil. Temperature 98.8 degrees to 99.2 degrees; pulse 72 to 80. On the fourth day she was quite comfortable, hungry, but still had difficulty in completing sentences because of the loss of words. Laboratory report: Leucocytes 15600, polynuclears 84

per cent., lymphocytes 15 per cent., basophiles .50 per cent., oesinophiles 0.00.

On the fifth day the patient could name all objects including the pencil, and called the nurses by name. The wound was redressed, temperature 98 degrees to 98.6 degrees; pulse 72 to 84. Dressings were done on alternate days.

On the twelfth day she again complained of pain in the right ear; the left ear was draining freely, pulse about 100 and steadily mounting, until on the twenty-first day 130 was recorded, with temperature 98.2. Laboratory report at this time showed leucocytes 15200, polynuclears 78 per cent., lymphocytes 20 per cent., basophiles 20 per cent.

On the following day the pulse was under 109, temperature 99.2; pain in the right ear. On the twenty-fifth day pain continued in the right ear. On the twenty-sixth day there was oedema over the right mastoid. Examination of the drum showed no inflammation. For the next four days the pain continued at intervals in the right ear, and at 2 P. M. on the thirty-second day she was awakened by pain in the right mastoid region, which disappeared the following day.

On the fortieth day she was allowed out of bed. On the forty-second day the right mastoid was still sensitive and a mastoidectomy was performed. I found soft bone leading to the antrum, but no pus. Culture from the bone was negative. Culture from the canal showed staphylococci. The blood-clot method was used in closing the mastoid wound, which healed by first intention. The pulse rate for the week preceding this operation had been in the neighborhood of 120, and the only symptoms of note were occasional styes and pustules on the body.

On the sixty-fourth day, there being little discharge from the incision, I attempted to close the upper part of it in order to obtain a better cosmetic result, but this was only partially successful as the tissues lacked sufficient vitality. On the sixty-ninth day the patient was examined by Dr. Ley, who had just returned to the city after a prolonged absence. His report was as follows: Eyes normal; no nystagmus; face and tongue negative; no Rohmberg; no ataxia; no disturbance in pointing tests; no vertigo; no sensory changes. Extremities: Elbow, wrist and knee-jerks exaggerated and equal;

abdominal and epigastrics very active; no ankle clonus; no Babinsky; mentality normal.

Patient from this time forward never had any fever, but would sometimes complain of pain in her right ear, at times of frontal headache, and because of an irritable pulse, increasing on exertion, was very carefully coached along and remained under hospital care until March, 1917, when she was sent home in good condition except for a slight discharge through a fistula in the incision behind the left ear.

This fistula eventually healed and the patient retained a conversational hearing distance of one meter. Urinalyses through the case were negative, and no chills occurred. I kept her under observation for two years. There were no further symptoms of the original illness, and the child has grown into a large and healthy young woman. Her physician reports having seen her a month ago, and that she was in perfect health.

Summary

I am quite well aware that I am open to criticism in the way I managed this case. In the first place, I believe that perhaps the right ear should not have been disturbed surgically. Second, in the light of our present knowledge, a radical mastoid of the left ear might have been avoided. Third, the question of using a drain in the brain-incision would today receive an affirmative answer in the minds of most of you. Finally, the query might be made as to whether I did not open into the ventricle. In reply I can say that a Preysing's brain abscess knife was used and this was gently tilted from side to side as it was inserted, hence the exact depth of the abscess was noted; likewise the same method was used until pus ceased flowing from the incision; further, the spinal puncture was negative. I believe, therefore, that the diagnosis of a circumscribed temporal-lobe abscess in an early stage of development is sustained.

This abscess was probably encapsulated and, therefore, the virulence of the primary infection was not great.

It is rare for a brain abscess to be secondary to an acute otitis media. The occurrence of convulsions is not common in temporal-lobe abscess.

Discussion

Charles A. Ley, Pittsburgh, Pa.: Dr. Cooper is to be congratulated upon the excellent results obtained in this case. The essential points are the presence of a middle ear disease on the left side lasting for a period of four weeks, at which time there were right-sided convulsions later becoming general, with unconsciousness, and some evidence of brain-complication; at the end of six weeks a well-developed auditory aphasia, the patient being very drowsy, slow cerebration and lack of sustained attention, going to sleep while being talked to, and both optic discs showed slight edema. Operation was performed at this time on the left temporal lobe and the evacuation at the depth of 3 cm. of approximately one ounce of thin milky fluid, the patient being very much shocked. On the fifth day following the brain-operation, the patient had recovered completely from the auditory aphasia.

I believe that Dr. Cooper did not open into the lateral ventricle because the patient responded too promptly from the shock; we know also that the rapid evacuation of a ventricle is in the majority of cases fatal. Also that the spinal fluid was clear and the fluid evacuated was milky in character.

Not being an aurist I do not feel competent to pass any opinion or judgment upon the operations or conditions found in the mastoids.

From the standpoint of the neurologist a short discussion of our present knowledge of the auditory centers may be of interest, and possibly be helpful in making an earlier diagnosis in cases that we might meet in the future where temporal-lobe complications are present.

There are two centers for hearing, namely:

1. Audito-sensory. { a. Type 1. Cortex.
2. Intermediate or audito-psychic. { b. Type 2. Cortex.

The audito-sensory area is located in the transverse gyri of Heschl, and here are appreciated the primary qualities such as loudness, pitch or tone, timbre, rhythm and direction.

The audito-psychic area includes two types of cortex. The first type is located in the superior temporal convolution, being continuous posteriorly with the supra-marginal gyrus. The second type of cortex comprises the balance of the temporal lobe and includes

the second and third temporal convolutions which are continuous posteriorly with the supra-marginal and angular gyri, and the fusiform gyrus through the temporal pole but not including the uncus. The audito-sensory area has a bilateral representation, while the audito-psychic is located only in one temporal lobe, being situated in right-handed individuals in the left temporal lobe. A lesion of one audito-sensory area merely produces a diminution in the acuity of hearing, and if the lesion involves the greater portion of the right temporal lobe in right-handed individuals there is no evidence of aphasia.

The development of hearing in the infant is considered to be first in the primary or audito-sensory center, and is interpreted more by the loudness and intensity. As interpretation of sound progresses there is a development of the first type of cortex in the audito-psychic area of the adjacent superior temporal convolution. It is definitely understood that this area is the center for memory of words, hence a lesion affecting this region produces word-deafness or lalognosis. The second type of cortex is later developed as knowledge is gained in the interpretation and association of sound with objects and music sense. It is not definitely known where, in the cortex of the second type, the exact areas for interpretation of sound with objects and for music are located.

In summary, the clinical features which may be ascribed to lesions of the intermediate temporal cortex are:

1. Word deafness (lalognosis) with the retention of sound-object association and the appreciation of musical tones.

2. Loss of proper internal supervision of articulate speech resulting in hetrophasia, agrammatism, jargon (or paraphasia).

3. Amusia which is usually combined with the foregoing (one and two) with retention of sound-object association.

4. Mind-deafness which includes all the foregoing and also obliteration of object-sound association, and means that there is an inability to identify sounds and noises with the object producing them.

George W. Mackenzie, Philadelphia, Pa.: Cerebral abscess should be differentiated from other conditions, notably, myasthenia gravis, which is a condition that involves the musculature of the body and muscles supplied by the motor cranial nerves; it is associated with extreme prostration, emaciation, etc.—also from that con-

dition known as encephalitis lethargica, in which many of the symptoms are much the same as found in myasthenia gravis and brain abscess. Recently I saw a case of lethargic encephalitis which was confused with wood alcohol poisoning, so it must be differentiated from brain abscess. Another case of lethargic encephalitis that I saw recently had been diagnosed brain abscess. Given a case of right temporal lobe abscess with the usual absence of focal symptoms it is not always an easy matter to differentiate the condition from the other forms of encephalitis.

Multiple sclerosis is another condition which needs at times to be differentiated from cerebral abscess. Lethargic encephalitis seems to affect more the motor cranial nerves, as does myasthenia gravis, especially the third, fourth, sixth and the seventh nerves. In fatal cases generally, too, the tenth and twelfth nerves are severely affected. Wood alcohol poisoning has been mistaken for these other conditions; however, wood alcohol tends to select the sensory cranial nerves, especially the second and the eighth.

Dr. George Webster called me in to see a case recently in which a neurologist had made a diagnosis of cerebral abscess. We went over the case together carefully, and could not find sufficient evidence to prove that it was cerebral abscess. One or the other or both of us were wrong in our diagnosis.

Concerning the diagnosis of brain abscess, Professor Alexander proved over and over again the axiom that in any case in which we have sufficient symptoms merely to suggest a brain abscess, upon operating the diagnosis is confirmed in 85 per cent. of the cases. The conclusion is that when in doubt it is safer to operate than not.

I want to compliment Dr. Cooper on the excellent manner in which he has presented the subject.

R. C. Cooper: I have nothing further to say except that the title of my paper was not "Cerebral Abscess," but the "Report of a Case of Temporal Lobe Abscess."

A CASE OF RETINITIS ALBUMINURICA COMPLICATING PREGNANCY *

WALTER M. YOST, M.D.,

Rochester, Pa.

THIS patient, an Austrian by birth, presented herself with her sixteen-year-old daughter as interpreter, with a request for glasses, as she could not see so well as usual. This history followed:

February 10, 1920, age 36. Had measles when a child; married seventeen years; has had six children, one of whom was stillborn three years ago; at the present time is three months pregnant. The only symptom complained of besides the vision is slight pain over eyes. The visual acuity is—Right eye 20/20; left eye 20/40. Examination shows both eyes negative externally; pupils react normally; ophthalmoscope shows: Right eye media clear, disc slightly reddened, with an appreciably edematous area surrounding it; also small hemorrhage in lower temporal quadrant. Left eye shows marked swelling and redness of disc, marked edema in the macular region, and multiple minute hemorrhages. Nose and throat were negative. In the mouth the teeth showed an extensive pyorrhoea.

I inquired of the patient who her family physician was—as she had not been referred to me; called him, and sent the patient to him the same night, instructing her to take a sample of urine, which he reported heavily loaded with albumin, with some hyalin casts. After a week of treatment with no improvement, I recommended that he induce abortion, as the vision had been reduced to: Right eye 20/200, and fingers at three feet in the left. This having been accomplished I did not see the patient for a week, at which time the visual acuity was ability to distinguish a moving hand at one foot with right eye, and light perception only with left.

The fundus picture at this time was most interesting, in that the papillitis was extreme in both eyes with a tremendous amount of edema of the retina throughout. The vessels were engorged and

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

were paralleled by innumerable striate hemorrhages; there were quite a few discrete yellowish spots scattered about the macular region and numerous glistening white spots, these latter being more or less characteristic of this condition, although at no time did they assume the usual textbook stellate appearance.

The patient's general condition was such at this time that the prospect of ultimate return to health was quite doubtful, and as she objected strenuously to staying in the hospital she was permitted to return home ten days from the date of admission. It seems she adhered faithfully to her dietetic treatment, which was all she received, except perhaps an occasional diuretic.

I heard nothing further from her for a month, when I was called to see her again; this time I found her still quite weak but better in general appearance. The vision had improved so that roughly recorded she was able to count fingers at six feet with each eye. The fundus picture showed marked change for the better in both eyes, the most prominent feature still remaining being the white spots in the macular region. At this time I insisted quite strongly that the teeth be given some energetic treatment as they had been entirely neglected thus far.

One month later, or nine weeks from the first visit, the patient returned to the office. I then found the vision: Right eye 20/30; left eye 20/40; and after refraction, with the correction this improved to: Right eye 20/20; left eye 20/30, and the fundus still clearing. An examination one year later shows very little evidence of the acute attack. The fundus is free of the white spots; some patches of retinal atrophy are apparent, but I could find only one spot of pigmentation 2 mm. in diameter in the left eye, though I rather believe this may increase in time. The vision remains: Right eye 20/20; left eye 20/30. The urine shows a minute trace of albumin; no casts.

Having outlined the course of this case, the question arises as to what precipitated such an attack in this patient, who had borne six children previously without at least any subjective symptoms such as developed at this time—for I have no means of knowing the state of her kidneys during these previous pregnancies.

Porter states that almost without exception the cases of this kind which he had observed were in syphilitics. This patient gave no evidence of syphilis; also a negative Wassermann; but if his

contention is logical it seems fair to believe that any similar toxin-producing infection, such as a severe pyorrhoea, with its toxic irritants taken up by the circulation of an individual whose kidney-balance is precariously maintained during pregnancy, will upset that balance and result in an attack of nephritis with this eye-involvement later.

The frequency of this complication in pregnancy Silex estimates is one case in 3,000 pregnancies, and it is generally expected during the latter half of the term; in this regard Howe states that when retinitis develops in the seventh month, or before, and abortion is not induced, permanent blindness may be expected, while the seriousness as to visual impairment is lessened as the onset of the disease approaches the end of the term.

Another feature of this disease is that it may affect the woman in her first pregnancy and not in her later ones, and vice versa, as in the case presented; which, to my mind, emphasizes the possibility that such attacks may be precipitated by a current focal infection.

The rapidity of the development of the serious ocular symptoms such as we had here shows the importance of keeping these patients under close observation, and puts the oculist in a position of adviser as to the urgency of interrupting the pregnancy and affording the only hope of restoring useful vision.

Another feature which was suggested by this case, while irrelevant from a technical standpoint is of importance; it is the matter of educating the people of the rural communities to consult an oculist for their eye-troubles, and this is best done through the family physician. In the cities the poorer classes have the advantage of the hospital dispensary, and competent eye-treatment, while in the small town sections this class, through ignorance, feel that the oculist is a last resort. He sometimes proves too late for that, as I have had numerous cases, more particularly advanced (when they reach me) arterio sclerotics showing serious fundus changes, who had been the rounds of the eyesight specialists in an effort to improve failing vision, but never would one of them admit the case was beyond him; and I know how often in our fundus work with refractions we can discover systemic conditions in time to add perhaps a few years more to the patient's life.

In closing I wish to emphasize that this retinitic complication

of pregnancy presents another example of the necessity for careful urine analysis by the general practitioner, and if nephritis is indicated it should place them on guard for the future; also whether it has a direct bearing or not, it seems as a matter of safety that focal infections should be removed, if possible.

A Report of a Case of Extensive Lateral Sinus Thrombosis with Special Reference to Low Resection.—After reporting in detail a very interesting case of lateral sinus thrombosis occurring in a soldier at Fort Thomas, Ky., Dr. Henry M. Goodyear comments as follows:

1. Of the deaths following lateral sinus thrombosis a comparatively small number have been studied and reported as to pathological findings at autopsy.

2. A point of interest is the almost constant finding of an area of pachymeningitis externa corresponding to the area of dura separated from the bone during operation.

3. The muscle splitting operation offers the most direct route and a decided advantage over an approach anterior to the muscle. It is the only practical route for a resection as low as the subclavian vein.—*Laryngoscope,* June, 1921. W. G. S., Jr.

POST-OPERATIVE FUSION AFTER THE AGE OF THIRTY-FIVE *

G. E. G. Norton, M.D.,

New York, N. Y.

REALIZING as we must that though some writers in the world of ophthalmology are quoted as authorities, the word "authorities" is purely relative, and the most enlightened writer is fallible, we beg to present an opinion, substantiated by facts, which is at variance with the vast majority of popular works. The author by no means intends to claim originality, but desires to offer evidence in substantiation of other writers who have dealt with fusion with the belief that age, though an obstacle, is not an unsurmountable one.

The term "fusion" will be used, not merely to denote simultaneous macular perception, but the psychical blending of macular images attaining solidarity of objects and their relative distances, or, if you will, sense of perspective. Fusion desire will be treated as an inherent psychical impulse, presided over by central neurons, and not within the control of voluntary innervation. The intensity of fusion desire is variable in accordance with its praxis, and this exercise is dependent entirely upon the difficulties met with in first securing crude binocular vision.

Thus the tropias and phorias may act to disturb or prevent binocular vision, and the longer the span of life, naturally the more extensive the inhibitions of fusion desire if disturbing tropia or phoria exists. Hence, as age progresses under these circumstances, the intensity of fusion desire diminishes, but we vehemently deny that it disappears or passes beyond the stage when proper rectification of conditions and treatment will fail to restore it to a serviceable faculty.

The majority of the most popular of our writers either say directly or leave the student of this subject with the strong impression that fusion not exercised before the age of six or seven years is impossible of attainment, or in such cases where fusion has

*Presented at the meeting of The O., O. & L. Society, Washington, D. C., June, 1921.

been attained at a later date, it has existed in early childhood, but has been too feeble to prevent the occurrence of a deviation which ultimately rendered it impossible. To be in a position to refute this latter argument the oculist would of necessity have to vouch for the fact that he has been in constant attendance upon the patient from birth, or at least from the fifth or sixth month, when the power of binocular vision ordinarily becomes manifest. In addition to this, he must admit dereliction of his obligations to his patient in that he failed to institute proper treatment to overcome the condition. Palpably this is unreasonable to expect, and we feel that the evidence of intelligent parents that the patient as a child had always squinted should be considered sufficient proof that no former period of fusion existed.

To proceed with the subject at hand. Perhaps the most concise manner in which to present the subject is the citation of a case record with discussion. The case presented is the most difficult in which our efforts were rewarded by success. The words "our efforts" are used advisedly. The writer laid down the method of procedure, the patient made the effort. Without the sincere interest of the patient the oculist may better save his words for a more hopeful cause.

Miss R., age 35, presented herself at our office July 16, 1919. She complained of blurring after a concentrated effort at either distant vision or near vision, and headaches daily aggravated by near vision. She remembered double vision in childhood, but was unable to say when it was last noticed. She had alternating convergent squint of about 35 degrees. The visual acuity O. D. 15/10-4 L. O. S. 15/10-3 L. The Harmon diaphragm showed suppression of either eye. The fields as taken upon Peter's Campimeter were normal. We ordered atropine. The atropine examination of the following day revealed retinoscopy+.25 D sph= +.50 D cyl axis 90 O. U., and a reefing of the external rectus left eye was advised. Ten days later we performed the advised reefing with advancement after the method of Bishop Harmon. Removing the sutures upon the eighth day after operation, we found a remaining squint of about 15 degrees, and we, therefore, postponed any efforts at correction for one month to allow consolidation of the

reef and such cicatricial contraction as might result from rasping of the muscle.

We then demonstrated a desire for binocular vision by displacing the macular image of one eye with a prism to approximate the macular image of the other eye. By utilizing this desire for binocular vision, we devoted twelve periods to exercising the external recti, and the patient finally succeeded in securing simultaneous vision with the aid of an 8-degree prism, this, of course, with a conscious effort. This apparent improvement, however, represented a divergent power rather than a correction, and so a reefing of the external rectus of the right eye was performed, again after the method of Bishop Harmon. After the removal of the sutures this time, the phorometer revealed an exophoria of 1 degree and a left hyperphoria of 4 degrees. Let us remark, in passing, the frequency of resulting hyperphoria from the Bishop Harmon reefing. Though this danger may be considerably reduced by extreme care in securing the reef, it must be considered the weak point of what is otherwise a most satisfactory procedure. A glass correcting 3 degrees of this hyperphoria was prescribed. Simultaneous vision being thus secured, exercises were begun to increase the development of the extrinsic muscles in general.

In November, four months from the beginning of the case, orthoptic exercises were commenced, using a Wells stereoscopic attachment upon a Stevens phorometer, and several series of stereoscopic charts and photographic charts. These latter charts were mostly of the conventional type with the addition of a few made at the suggestion of the writer, to stimulate the various stages of logical purpose which would eventually lead to psychical blending without voluntary innervations. The Risley prism was left in position and utilized for the double purpose of securing perfect simultaneous perception by accurate adjustment, and later of piquing the fusion desire by slight displacement. Up to this time, and for approximately five weeks subsequent to it, the patient complained of a distressing instability of objects, an indefinite sense of flickering, and a subconscious sensation that she was not securing the finished mental picture. Each week thereafter, however, brought her report that she was "sensing" a dawning consciousness of depth solidarity and distance different from the makeshift faculty which

she had acquired to some extent, and comparable to that which we gained by the constant use of the head-mirror which prohibits the use of both eyes; and in April, nine months from the beginning, she gave complete evidence of psychical blending and fusion in the orthodox sense of the term.

Though but one case has been cited, it represents a series between the ages of 16 and 36 of varying degrees of fault, and presenting individual problems, and what has been accomplished in this series of cases may be accomplished in other cases. We qualify this statement only by saying that the patient must have sufficient intelligence and sufficient interest in the ultimate result, to co-operate with the oculist, and the oculist in turn must have the necessary diligence and patience to pursue the training to a successful termination. We do not feel that this qualification weakens our argument, for in what constructive developmental process can we dispense with intelligence, interest and diligence, and contemplate success? And so, my plea is for the abrogation of the time-worn tenet that the havoc wrought by a fusion desire long unsatisfied is irreparable.

Student Philosophy.—"Sedentary work," said the college lecturer, "tends to lessen the endurance."

"In other words," butted in the smart student, "the more one sits the less one can stand."

"Exactly," retorted the lecturer; "and if one lies a great deal one's standing is lost completely."—*Kind Words.*

A MASTOID CASE WITH INTERESTING COMPLICATIONS *

T. W. Stephens, M.D.,

Pittsburgh, Pa.

THIS case, with its peculiar set of symptoms, gave me so much worry and trouble that I deemed it of sufficient importance to bring it to your attention.

Male, 16 years. Upon seeing the case the first time I found the following symptoms: Temperature 104 2/5; restless; considerable pain and swelling over the right mastoid region (the local physician had opened the membrane the day before but there was little or no discharge); word aphasia to a marked degree which I feared meant a brain abscess; severe pain in frontal region of affected side; the whole membranous canal inflamed and tender; vomiting at intervals of four hours; cold sweat upon upper parts only; a large abscess at the base of the sternum had been opened and apparently was draining satisfactorily.

I immediately enlarged the opening downward in the membrane and was rewarded by having the canal fill up with a brownish-yellow, foul smelling discharge. I left directions to have the canal kept clean by hot saline douches; also prescribed hot water bottle applied to outside region. The next day I expected to find all symptoms ameliorated, but to my surprise not a symptom, except pain in frontal region, was relieved.

The patient was removed to the hospital and a simple mastoidectomy was performed. The mastoid cells extended well forward into the posterior root of the zygoma and posteriorly back and around the sinus. They were all filled with granulation-tissue and pus, and the cells posterior to the sinus had broken down, causing as I thought an extra-dural abscess. The wound was packed wide open.

Patient's temperature at time of operation was 105 4/10, four hours afterward was 99 2/10; and for four days was at no time any higher than that. All other symptoms markedly better. However, upon the fifth night patient had a severe chill with vomiting, followed by a temperature of 105 4/10, which slowly abated until

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

six hours later it was down to 98 4/10. The same phenomena occurred each night for four nights; then upon the fifth day he complained of severe pains in nearly all the joints of his body but especially in right ankle and knee.

About that time I began to get light on the subject and upon close questioning of the mother I found that at the patient's age she had lain in bed for thirteen months with inflammatory rheumatism.

The diagnosis was plain to me then and I called in my brother who is a general practitioner and turned over the case to him. Under good homœopathic prescribing the patient made an uninterrupted recovery.

On account of the size of the opening it filled in slowly but has now entirely healed, leaving no depression; the ear has remained perfectly dry and hearing is normal.

Discussion

Fred C. Sage, Waterloo, Iowa: This interesting case related by Dr. Stephens teaches several very important lessons. First, that we sometimes see cases where it is impossible to make a complete diagnosis and, second, that operation may become necessary sometimes in twenty-four to forty-eight hours from the incidence of an acute mastoiditis and a considerable amount of pus be found. One of our army hospitals in the South had quite a number of such violent sudden cases and pus was found in the mastoid cells in every case. In any such case at this one transillumination and the Roentgen Ray should be of material assistance in diagnosing the local trouble. The pain in frontal sinus region was probably due to some transient local infection. I should consider the case as one of general systemic infection with the streptococcus hemolyticus undoubtedly one of the infecting organisms. I would not consider the fact that the patient's mother suffered with inflammatory rheumatism at a similar age to have any bearing on this case.

Just one further thought, and that is that a mastoid infection is sometimes an accompaniment of a general infection and the last year I have had two cases in which there was a long series of multiple abscesses, many requiring surgical treatment. In one case of a boy of fourteen operated for mastoid abscess both he and his

father suffered with a series of infections, though the father had no mastoid trouble.

T. W. Stephens: I have nothing further to say, except that the peculiar part of the case is that there happened to be a unilateral condition develop. That is about all I want to say.

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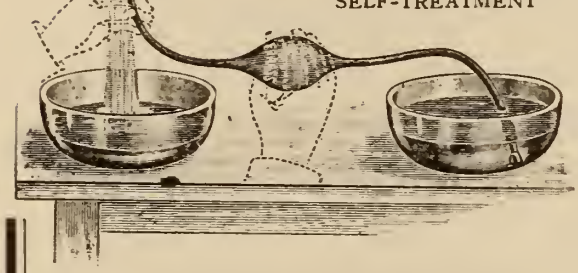

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Editorial

WELCOME TO PHILADELPHIA

DURING the month of October two meetings of importance to eye, ear, nose and throat specialists will be held in Philadelphia. At or about the same time intensive clinical courses will be given under the direction of the American Academy of Ophthalmology and Oto-Laryngology. Every eye, ear, nose and throat specialist who can manage to spare the time should attend. Every one will be more than repaid for attending these two big meetings.

The American Academy of Ophthalmology and Oto-Laryngology meeting will take place the week of October 17th, and the American College of Surgeons the week of October 24th.

There will be something doing every minute.

WEBER, SCHWABACH AND RINNE TESTS

THE Editor recently prepared a paper on the above subject to be presented before the American Academy of Ophthalmology and Oto-Laryngology. His reasons for preparing the paper are set forth in the first two paragraphs.

1. That these tests when carefully conducted afford the otologist the best qualitative means available for determining the anatomical site of the lesion responsible for loss of hearing function, partial or complete.

2. Besides in the hands of a skillful examiner they may, when carefully timed, in combination with air-conduction tests with tuning forks, serve as quantitative tests subject to limitations as are other present day methods.

3. That in spite of the above mentioned facts there exists too

often a looseness in the method of conducting them even by credited otologists. One may observe otological clinics, here and there, where an attempt is seldom made to conduct these few simple tests even in those cases undergoing treatment for deafness. The explanation for this neglect may be one of several: (a) Forks may not be available or what are available may be unsuitable for the purpose. (b) Lack of faith in the tests brought about by carelessness in technique which naturally leads to irregularity of findings and in turn to lack of interest. The same holds true in other fields, in photography, laboratory work or vestibular diagnosis. In fact, in anything of a technical nature, careful technique is the one big essential to success and fascination for the work. (c) Lack of time to apply the tests. (d) Lack of ability to conduct them. (e) Indifference.

Feeling so thoroughly convinced of the truth of these statements the editor was moved to recount them again in the pages of our Journal. G. W. M.

WOOD ALCOHOL POISONING OR LETHARGIC ENCEPHALITIS, WHICH IS IT?

THE opportunity was recently afforded the editor to study a case impending for compensation with the object of determining whether the employe's ailment was due to wood alcohol poisoning or epidemic lethargic encephalitis or something else. Wood alcohol poisoning had to be considered from the fact that the patient was apparently exposed to the vapor of shellac that had been cut with ethyl alcohol denatured with 5 per cent. wood spirits in a more or less confined apartment in the hold of a ship. Besides an expert eye specialist in his report to the corporation certified that the young man (20 years old) was suffering from wood alcohol poisoning, and among the reasons given to bear out his opinion were mentioned dilated pupils, poor vision, O.D. 20/70, O.S. 20/100 without correction, and O.D. 20/20, O.S. 20/30 with present correction which neutralized O.D.+1.75 sphere +1.50 cylinder, axis 90 and O.S. +2.75 sphere +1.50 cylinder, axis 60 with +2.00 added for near. Furthermore, there was bilateral ptosis and

abducens paresis in the left eye. The ophthalmoscope showed marked pallor of the temporal half of the disc O.D., and even more marked pallor of the disc O.S., contraction of the visual fields, diminished color perception but no central scotoma.

The editor was called to see the case at the West Jersey Homœopathic Hospital in Camden. The history suggested the diagnosis of sleeping sickness. Among the mass of data collected nothing will be referred to at this time excepting the eye-findings. The editor's findings were the same in most respects as those referred to by the preceding specialist. However, the conclusions arrived at are entirely different. Both of us found dilated pupils, poor vision without correction, some pallor of temporal half of the disc, abducens paresis, ptosis and no central scotoma.

Wood alcohol selects preferably the sensory cranial nerves, second and eighth, almost never the motor.

Lethargic encephalitis selects preferably the motor cranial nerves, third, fourth, sixth, seventh, motor tenth, eleventh, and twelfth; rarely the sensory. This case, according to the other fellow's report, manifested, by reason of the ptosis and dilated pupil, third nerve involvement; also cycloplegia by reason of the fact that a +2.00 sphere was prescribed for near in addition to the distant correction in a patient 20 years of age. The sixth nerve on the left was involved according to the same statement. Here are two motor nerves positively involved, pointing to lethargic encephalitis rather than to wood alcohol poisoning. The poor vision together with pallor of the temporal half of the disc suggested to him second nerve involvement, but let us see. The vision that was so poor, 20/70 and 20/200, came up to normal or nearly normal with correcting lenses. This improvement proves rather that the refraction error was more responsible than optic nerve involvement.

What about the pallor of the disc? If the temporal half shows the pallor it can be claimed for it that it could only show the pallor because of degeneration of the maculo-papular bundle, and this should cause a central scotoma, which he denies having been present. There is a lack of consistency that forces us to exclude the supposed pallor as pathologic. The pallor in fact, as observed by the editor, was less than that often seen in the normal seeing eye with a large shallow eccentrically placed physiologic cup.

What about the poor vision? The vision was poor because this patient had a fair degree of compound hyperopic astigmatism, for which he never wore a correcting lens. A disease happened along that caused an internal ophthalmolegia dilating the pupil and paralyzing the accommodation. His vision naturally sunk to that which might be expected in a case with an error as high as his when a cycloplegic is put into the eyes. A further proof of the cycloplegia is evidenced by the fact that the patient had to wear a presbyopic correction for near at an age far below that calling for a near correction. That the vision of the left eye did not quite reach normal with the correction was due to the fact that his error was higher in that eye than in the left one.

This patient's diminished vision, which appeared to follow exposure to wood alcohol poisoning, was then not due to involvement of the second nerve, but to involvement of the third nerve in the presence of a fairly high degree of compound hyperopic astigmatism.

The eye-findings in this case were due, therefore, to lethargic encephalitis and not to wood alcohol poisoning. There is an abundance of corroborative evidence to prove this diagnosis of sleeping sickness. The object of the editorial is merely to bring out a few points of differential diagnosis referable to the eye-findings in this particular case, and to show how easily one can err in diagnosis when not taking into consideration every factor in the case.

G. W. M.

AUTOTHERAPY IN THE TREATMENT OF HAY-FEVER

OWING to the fact that both the editor and his associate in practice, Dr. Shemeley, have been receiving letters at odd times from their colleagues in the profession inquiring into the subject of autotherapy, with particular reference to the technique employed, we concluded that it would be better to repeat in more detail the method used, which may have been insufficiently explained in the previous article. Dr. Shemeley, with the permission of one of these inquirers, has prepared answers to some of the more important questions of technique.

Dr. Trowbridge's letter of inquiry and Dr. Shemeley's reply appear on pages 320-22 of the present number of the JOURNAL.

G. W. M.

XEROSIS BACILLUS *

Charles Leslie Rumsey, A.M., M.D.,

Baltimore, Md.

I AM reporting two cases of conjunctivitis and keratitis where we have been able to cultivate a poor growth of Bacillus Xerosis. While we are given to understand the B. xerosis is a non-pathogenic organism, this bacillus associated with intestinal disturbance, mostly the digestion of fats, was apparently the only cause of conjunctivitis and keratitis in these particular cases. Hala claims xerosis bacillus causes a chronic inflammation of a Meibomian gland, or chalazion. The inflammatory process causes proliferation of the epithelial lining of the gland and cell-infiltration of the surrounding tissue. The inflamed area develops into a granulating mass surrounded by a thin connective-tissue capsule. According to Fuchs, xerosis bacillus is neither the cause of xerosis nor characteristic of this disease, since it is found in the healthy conjunctival sac.

It is positive that the normal human conjunctiva is not sterile but contains less germs than that of the neighboring margins of the lids. Xerosis bacillus grows on serum and agar. It is distinguished by their striated appearance and variable shape. The xerosis bacilli are among the germs regularly met with on the normal conjunctiva. While the lachrymal fluid is not a good culture medium for bacteria, and, therefore, has a bactericidal action, the xerosis bacillus, which is of the diphtheria group, multiplies in the stagnant lachrymal fluid. This has been demonstrated after the extirpation of the lachrymal sac. It is well known that germs of the conjunctiva augment considerably when the eye is bandaged, as the regular act of winking is a physiological self-cleansing of the eye. Again, bandaging the eye favors the development of germs by increasing the temperature.

Xerosis of the conjunctiva appears either sequent to a local disease or as an accompaniment of a general affection. Locally, it

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

occurs after a cicatricial degeneration following trachoma, pemphigus, burns or diphtheritic conjunctivitis, or it may be due to insufficient protection, as in ectropion and lagophthalmos, when the exposed conjunctiva becomes covered with an epidermoid epithelium.

Xerosis conjunctivae is essentially a dry, lusterless shrunken appearance of the conjunctiva, and is recognized under two forms —parenchymatous and epithelial.

Case I.—D. H. F. consulted me April 16, 1904. Aet. 50 years, weight about 145 pounds, height about five feet and ten inches. Family history good. Personal history negative. Occupation, champagne taster. Bacteriological findings was a pure culture of xerosis. Left eye affected for ten years and has consulted various oculists of good standing without benefit. The eye has gradually grown worse. Has photophobia relieved by darkest shade of smoked glasses. There appears on the left conjunctival tarsi several dry-looking places to which the lachrymal fluid cannot adhere. Both upper tarsi are distorted, causing constant irritation to the eyeball. There are no eyelashes on either eyelid of either eye, the loss of which patient cannot definitely fix. The lower puncta were in good position. There is an anterior symblepharon of the left eye, with slight restriction of the movements of the eyeball. The corneal epithelium seemed dry and opaque. There is pannus of both eyes, particularly left. The pupils were round, about 3 mm. in diameter; blue irides. It was possible the left pupil reacted and the right pupil reacted feebly to light and accommodation. Patient stated he was always poisoned by any use of atropin or belladonna. The fundus could not be observed in the left eye but was normal in the right eye. There was hemeralopia and the secretion was of a viscid character.

In consultation with the late Dr. C. M. Thomas, of Philadelphia, May 6, 1906, Dr. Thomas recommended fracturing the tarsi and using plastic work or transplantation for the symblepharon, which was performed May 10, 1906. D. H. F. was much relieved by the surgical work. Patient stated he had had such a variety of drops and salves used by various oculists that he desired other treatment. High frequency was used with benefit. The patient stated he was more comfortable, and vision at times clearer. Hot applications

for fifteen minutes were used once daily. The homœopathic remedies used were not satisfactory. The patient stated to me he expected some day he would leave for whereabouts unknown to anyone, as he was not going to be a burden to his relatives or friends. I never saw him again and his family has never been able to locate him to the present time. Dr. Thomas did not make a definite diagnosis but did not believe it was a case of pemphigus.

Case 2.—Mrs. F. J. F. consulted me March 15, 1920. Aet. 64 years, weight 140 pounds, height about five feet and five inches. Family history negative. Personal history, never strong. More or less stomach disturbance. Occupation, housewife. Right eye affected since September, 1915. Has consulted various oculists. Was at Mayo Clinic from November, 1918, to April, 1919, and August, 1919. Had various laboratory findings made at Mayo Clinic with negative results. On April 6, 1920, I received a letter from Dr. Benedict, of the section of ophthalmology of Mayo Clinic, in reply to my letter of inquiry, stating there had been found almost a pure culture of Bacillus xerosis in Mrs. F. J. F.'s eye, and that patient had such a reaction to atropin as to necessitate the use of some other cycloplegic. On March 15, 1920, the bacteriological findings were the same as found at Mayo Clinic.

The right eye was intensely red with conjunctival and some ciliary injection, and intense congestion of the palpebral conjunctiva with the velvety appearance. The cornea had no lustre, with blood-vessels communicating with the conjunctival vessels forming a venous plexus beneath the corneal epithelium. Pupil shows slight reaction. The left eye had marked ocular conjunctival injection, with the velvety palpebral conjunctiva, but much less than the right eye, and no corneal involvement. Vision, O. D. count fingers about four feet, not improved by glasses. O. S. 20/200. With Spher. +1.50 in combination with Cyl. +2.00 Axis 75°=20/30. There is marked photophobia and lachrymation wearing darkest smoked glasses over the refractive Crooks B. glass.

The treatment consisted of one percentum zinc sulphate, one minim three times daily, and zinc sulphate ointment to the lids on retiring. Five percentum dionin, one minim three times daily. Hot applications for fifteen minutes twice daily. There was applied later to each eye thermo penetration from Wappler's high frequency

instrument, which gave most relief. Arsen. iodatum, 3x, was also helpful, as patient was more relieved than when not using the remedy. Patient could not digest fats and has intestinal indigestion. Finds the Bulgaria Tablets efficacious. Patient reported that the eyes were never better during five years than from July, 1920, to April, 1921, when patient again presented the same condition of both eyes in less aggravated form on April 28, 1921. She is receiving the same treatment and bacteriological findings are the same.

If the sugar poison can invade the aqueous, the vitreous and the nutritive stream of the lens, toxemias of the intestinal tract can produce inflammatory processes in other tissues of the eye. Both patients herewith reported had been under stomach specialists. Both reported a hypo-acidity, thus favoring the development of micro-organisms in the stomach and fermentation with the formation of lactic acid and butyric acid.

The Summary of this paper is:

First, with a pure culture of Xerosis bacillus, a so-called non-pathogenic bacteria, what could be the cause of this intense conjunctivitis and keratitis?

Second, from my study of these cases—admitting the first one was not pemphigus, as declared by Dr. Thomas—is it possible some pathology of the intestinal tract favored a pathogenesis of the xerosis bacillus? In obscure conditions of the eye, a thorough investigation of the urine, feces and blood will give us a reliable index of the putrefactive condition of the intestinal tract.

Discussion

W. D. Rowland, Boston: I cannot let this interesting case go without some remark about it. In April, 1921, the *Journal of the American Medical Association* contained a report of an investigation by Osborn and Mendel, of Yale, on the subject of the effect of certain diets on xerotic conditions. They made an experiment with rats, and found that the elimination of fat-soluble vitamines from the diet was responsible for the condition. But on replacing fat-soluble vitamine A in the diet, the conditions cleared up. The Xerotic bacillus is a secondary issue, and not the causative factor.

Xerosis is a condition that follows after the original condition has once got under way. Therefore, there must be a preceding condition to be looked for. These cases are interesting to me in connection with the case that I reported this morning, and Dr. Rumsey's description would bear out the fact that there is a parenchymatous change in the subconjunctival tissue in which case he found the xerotic bacilli. The relation of fat-soluble vitamine A is an important factor in the treatment. In any gastrointestinal disturbance, if the patient were getting fat-soluble vitamine A, it might be possible that it was not absorbed or assimilated.

Retropharyngeal Abscess.—The complications that may arise from retropharyngeal abscess will, no doubt, prove to be due to: (a) Spread of the infecting process by blood and lymph streams, causing septicemia, pyemia or distant infections, such as menengitis. (b) Spread of the process by continuity, producing spontaneous and serious hemorrhage by infectious erosion of the large vessels of the neck, and by spreading or burrowing of the abscess downward, involving the mediastinum, or by rupturing into the esophagus. (c) Some mechanical process, such as pressure of the tumefaction forward on the epiglottis and larynx, with edema and air hunger sufficient to require emergency tracheotomy; or such as spontaneous or artificial rupture of the abscess, with aspiration of the infected content, producing pneumonia, lung abscess or sudden asphyxia.—Ira Frank, *Journal A. M. A.*, August, 1921. W. G. S., Jr.

A SERIES OF PECULIAR OCULAR INFECTIONS*

Frank O. Nagle, A.M., M.D.,

Philadelphia, Pa.

I REMEMBER very well visitors to the Vienna Clinic would often say that the study of the complications and peculiarities of operative work was not to be obtained by visiting the clinics of Professor Fuchs. In other words, the technique in operative measures was perfect. This same applies to my experience at the Hahnemann Hospital, Philadelphia, within the last ten years under my clinical chief, Dr. W. W. Speakman. This past winter, however, we had a series of interesting and unusual conditions, but fortunately good results were not interfered with.

My first case to report is one which I observed at the West Jersey Homœopathic Hospital, Camden, in October, 1920.

Patient, a man of 84 years with senile cataract in each eye. The usual tests for cataracts were made. The man was old; he was senile in appearance and in behavior. At the pupillary border there was a light grayish line which we know corresponds to a senile degeneration of the pupillary fibres. I assigned Dr. Fred Peters to perform the iridectomy. He was assisted by Dr. Thomas Snyder. The incision was, as usual, performed without complications. However, in trying to grasp the iris tissue with the forceps several attempts had to be made to get hold of the structure. Indeed, the iris forceps seemed to glide over the surface. Finally, a piece of the iris tissue broke off, and a surprisingly good iridectomy was the result. The wound healing was normal. In two weeks we were ready for the extraction of the cataract.

There was a slight ciliary injection present at the time the patient was brought into the operating room. The examination of the eyeball gave us a more detailed view of the cataract. However, the grayish color of the cataract itself extended way into the wound incision. This aroused at least a suspicion in my mind. We all examined it, and pronounced it senile cataract. I jokingly re-

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

ferred to it at the time as probably an abscess. I performed the extraction of the cataract. The incision was as usual. As I made a discission of the anterior capsule a small sac popped from the incision, landing on the patient's brow. The color being yellow, and with its glistening surface, it was thought under the stress of the moment to be an opaque lens nucleus. One of the assistants broke it and a gelatinous mass exuded from the sac. On examination, the lens being unchanged except for swelling and a shallow anterior chamber led me to conclude that this was an iris cyst, which I had disturbed in rupturing the anterior capsule. The rapid swelling of lens had forced it through the wound, the peculiarity being its unruptured delivery, and being so in contact with the lens as to make it indistinguishable. The delivery of the cataract was uneventful; a mature lens was found. With the exception of some slight symptoms of iritis, which were present for two or three days, the patient went on to recovery.

The second case was a private case of Dr. Fred Peters. I assisted. The diagnosis of senile cataract was made by the usual method of procedure. The iridectomy was uneventful. The extraction was difficult in this respect—it was difficult to deliver the lens. For a moment the lens obstructed the incision because of its size, but it was easily delivered by lifting it out with a spoon. The wound closed within twenty-four hours. There was a great deal of injection, however, and a peculiar haziness of the cornea, V-shaped in appearance, and quite opaque. This appeared to be in the deeper layers of the cornea, triangular in shape, with the base of the triangle toward the incision. Under high magnification, peculiar lineal vertical lines were noticeable. This was, undoubtedly, a case of so-called wrinkling of Descemet's membrane of the cornea, which Fuchs described in his textbook.

Our experience at the Hahnemann the last ten years has brought us to the conclusion that a needling operation is not as simple as we would have the patient believe it to be. Dr. Speakman has often told me that after a needling operation for a secondary cataract, if it is followed by a slight iridocyclitis, the vision is never as clear as previous to the operation. We have both had experiences with needling operations of a rather alarming nature. The first case I will report was one of a simple needling operation. It was

done under the most favorable circumstances. The patient was about twenty-three years old, with a history of vision becoming poor in the left eye during the last two years. We could not obtain a history of the injury from him. Therefore, the cause of the cataract was unknown. The patient said he could see out of this eye before the cataract developed.

The first day after the operation the patient complained of a severe pain, unable to sleep, eye being sore and watery. Upon close examination, at the point of entrance of the incision in the deep posterior layers of the cornea was a yellow infiltration. A great deal of iritis was present. This infiltration enlarged until it reached the size of 3 mm. in diameter. On the third day a hypopyon developed, which came up to the pupillary border in the next twenty-four hours. If this had been an ordinary cataract operation I would have thought a panopthalmitis would be the end-result. Fortunately, the symptoms of panopthalmitis were not present, and did not appear, although a glance at the eye would lead one to suspect a very grave on-coming condition. Having thus excluded panopthalmitis at the end of the third day, we directly attacked this yellow mass. First of all, we cocainized the eyeball well. An incision was made into this mass, partial Von Graefe's incision, and the hypopyon evacuated through the opening, and as a final touch the corneal surface was cauterized. It was certainly an experience as far as the treatment of a corneal abscess was concerned.

My final examination of this patient was taken during this month (June), and showed all that could be desired from a needling operation. There is a small corneal scar at the point of incision. The lens was completely absorbed; pupil black; patient able to count fingers at 15 feet. I have not refracted him as yet. In other words, the active inflammation which followed the needling operation was a great factor in absorbing the lens-substance itself.

My next case is one having a history of congenital cataracts (perinuclear). Right eye operated three times previously at the University Hospital. Needled—vision 15/70; patient desired better vision, especially reading vision, and also desired left eye to be needled.

After a careful examination of the good eye, Dr. Speakman decided he would needle again to remove a central portion of the

lens capsule. The patient was operated at the Hahnemann Hospital, before the senior section in April. I assisted Dr. Speakman. The operation was performed without difficulty under the usual aseptic and antiseptic precautions. The V-shaped opening was made in the thickened capsule. Patient was taken to the ward. The following day the eyeball looked entirely clear, not even a ciliary flush being present. The eyeball was so well that the patient was discharged from the hospital on the third day, and reported to Dr. Speakman at his office. Vision with the correction of old glasses even was 15/30. Patient was able to see 050/050 Snellen type, for near. Two days following, on a Saturday evening, to be exact, while walking along the street patient developed a sudden pain, which continued uninterruptedly until she reported at the office on Monday. Condition was one of iridocyclitis. There was a marked ciliary injection; pain; photophobia. Hypopyon was present in the anterior chamber. Vitreous was clouded; impossible to obtain even a red reflex with the ophthalmoscope. Naturally, this complication had a very depressing effect on all concerned. Patient practically had to be led around. For one month there was no improvement, when gradually the eyeball cleared up with the restoration of her vision to almost what she had before the operation. On Tuesday, April 26th, the other eye was needled for congenital cataract at Hahnemann. There was absolutely no inflammatory reaction present.

Diabetes as a cause of cataract was discovered in 1834 by Berndt. The occurrence of diabetic cataract had been estimated from 1 to 11 per cent. of all cases of cataract. This may mean also that in a broad way we find the presence of sugar in the urine in that proportion of cases.

While studying at the University of Breslau, Hayasi, a Japanese research student, was making animal experiments, with wound healings in diabetic animals. His results were that the wounds healed more slowly in animals with sugar in the urine than in his control of healthy animals. At the same time, Uthoff, professor of clinics, published a very optimistic article concerning the results of his operations in diabetic people. He gave the profession a list of 115 cases, where only two were failures as far as vision was concerned, iritis and iridocyclitis predominating.

In April, 1920, we admitted to the Hahnemann Hospital a pa-

tient who was absolutely helpless because of his poor vision. Diagnosis of senile cataracts was made. He was a very senile patient with a history of diabetes. The iridectomy was performed before the senior section at the college. It was beautifully performed. Within twenty-four hours an iritis developed that gradually became worse in the next three or four weeks, and it was absolutely necessary to remove the eyeball. We were rather shocked at this result. We had the patient's confidence, however, and he decided to take a chance with the other eye, which we operated on National Homœopathic Day in October. The profession can attest to the perfect technique of Dr. Speakman. Extraordinary precautions were taken, the hospital supplying a special nurse. Nevertheless, the next day we had a repetition of the experience in the other eye, which continued such a long time as to endanger the patient's life, and an enucleation had to be performed.

Discussion

George A. Suffa, Boston, Mass.: I should like to ask about the preparation of the eyes before the operation. Were any smears taken, or anything of that kind?

R. I. Lloyd, Brooklyn, N. Y.: Would like to say that I agree with Dr. Nagle that needling is not the simple process, entirely devoid of danger, that many seem to think it is. Have seen cases which resulted in panophthalmitis and only recently cared for a case for a colleague which became such a serious matter that I realize exactly how Dr. Nagle felt. Very serious results may follow needling, and it is this fact that adds a reason to other factors for desiring to remove the lens in its capsule and avoid needling.

Wm. M. Muncy, Providence, R. I.: Dr. Knapp, of New York, in a report of a series of cases of cataract extractions in diabetics, laid weight upon the appearance of sugar not being a counter-indication for operation. Others have stated that it was a question of a large amount of acetone present that was the disturbing factor. A recent discussion, at the A. M. A. meeting in Boston, considered as high a percentage of sugar as six being a safe case for operation.

What is Dr. Nagle's opinion? Is it not a question of blood-analysis rather than kidney output?

Frank O. Nagle: We always take smears before cataract operations. The gonococci are the most virulent bacteria, so far as the vitreous is concerned; but the pneumococci are not pus-producing organisms. Following the usual method we commonly take before operation, dieting and everything else, we sometimes get these peculiar infections.

Practical Use of the Barany Tests Away from Medical Centers.—The writer, after offering as the reason for presenting the paper the practical use of the Barany tests in sections remote from the great medical centers, and covering the historical and and descriptive phases of these tests, summarizes as follows: "The Barany tests are of great practical value. (1) In the study of spontaneous nystagmus not obviously ocular, and certain ocular palsies, giving definite assistance in assigning a point of lesion. (2) In the study of various forms of labyrinthine disease, giving findings essential to diagnosis and differential diagnosis not to be secured in any other way. (3) In the study of vertigo where in most instances the presence or absence of an organic lesion may be demonstrated. In its presence, possible suggestion as to the region involved and the possibility of treatment may be given. (4) In the study of intracranial disease. Here definite findings indicate such lesion and a suggestion towards its localization has in some instances been given." Wm. H. Sears, *Pennsylvania Medical Journal*, August, 1921. W. G. S., Jr.

The creation of a thousand forests is in one acorn.—*Emerson.*

AUTOTHERAPY IN THE TREATMENT OF HAY-FEVER

[Further Communication]

SINCE my first presentation of the subject I have received letters at odd times from physicians who have read the different articles, asking for more detail concerning the method of collecting the raw material and preparing the filtrate and solution for administration, and the method of injecting it.

In anticipation of other inquiries I am taking the liberty, with the permission of Dr. Trowbridge, of publishing his letter and my reply.

William G. Shemeley, Jr., M.D.

Viroqua, Wis., June 28, 1921.

My dear Dr. Shemeley:

I am greatly interested in your article on "Treatment of Hay-Fever by Autotherapy," as founded by Dr. Duncan. I have Dr. Duncan's work and his Berkfeld filter. I paid him, I think, ten or fifteen dollars for the outfit, but after I got it, I will tell you candidly that I was afraid to use it on my patients. Possibly my intimidations were not well-grounded but it looked to me that the filter would not be sterile.

I am going to give you a little history of how I prepared one case of bronchitis and then I would like to know if I was absolutely right. I tried to follow out Dr. Duncan's book, but sometimes you know a book is incomplete. This patient had had a chronic bronchitis for over fifteen years. She came up one morning and I sterilized my filter, also sterilized the 4. oz. wide-mouth, glass-stoppered bottle, as well as a 2 oz. wide-mouth, glass-stoppered bottle. I put in the 4 oz. bottle, 2 oz. of sterile water, and the moment the patient began to cough I let her expectorate the sputum (it was possibly a half dram) into this sterile bottle which contained the 2 oz. of sterile water. I also had a few sterile glass beads that I put in the bottle; then at intervals of every hour while in my office I agitated the bottle for five or six minutes. I let it stand for twenty-four hours from the time she expectorated the sputum into this sterile water; then I ran it through the Berkfeld fifter. After

I ran it through the filter I noticed it was a little cloudy, but following Dr. Duncan's book very carefully I found he said that its cloudiness had nothing to do with its virulency. I got possibly three-quarters of an ounce of the filtrate through the filter and emptied it into the little sterile bottle, and marked it. I gave 1 cc. to the patient. I had a little reaction but not much. I had the patient come back in a week and gave her another one. The cough lessened, the sputum lessened and she began to take on a little flesh. She felt better but the cough did not entirely subside. For want of knowledge and technique I discontinued the work, when the patient moved away and I had no chance to follow up the case.

Now, the point I wish to make, Dr. Shemeley, in regard to myself, I have the hay-fever only about twenty-four hours, when it completely leaves my upper air-passages and I have a most severe asthma, nocturnal, and will cough and raise a mucopurulent sputum. My hay-fever, as a rule, never comes on until the 21st of August, but the last week, since we have had such hot weather out here, I have had no nasal symptoms at all; but after the extreme heat one evening there was a little shower and immediately after the shower I began to be choked up with an attack of asthma. I could hardly get my breath and would cough and raise this mucopurulent secretion. Do you think it would be all right for me to expectorate a mouthful of this sputum right from my mouth into a sterile 2 oz. of water? I do not see how I could sterilize my buccal cavity in any way without destroying the medicinal properties of the sputum that is to be used in the filtrate. That is the point I am not clear on and that is the point I would like to have explained. Now, assuming that we have the sputum in the filtrate, what strength of that filtrate would you use in my case? I see in your article that you advise an injection of ½ cc. of a dilution representing our 6x. Could we not make that a little more simple, if you could tell, say, to take two drops of this sterile filtrate—and how many drops of sterile water would you say I had better use for the first injection?

When it comes hay-fever time may I ask you how you collect the secretion from the nostrils? Would it be all right to take two little pieces of sterile cotton and with a pair of sterilized forceps place up in the nostrils, and in a short time withdraw the cotton and put all in 2 oz. of sterile water? Or would you first spray the nasal cavities out with a normal saline solution and then

after some secretion had accumulated in the nostrils, blow the nose, catching the secretion on a little piece of sterile gauze, then dropping that gauze in the sterile water? I would be so grateful to you, Dr. Shemeley, if you would give me the exact technique so that I can do something to alleviate my trouble and one or two others that are suffering equally with me. The point is that I have discussed this with some colleagues in Chicago, and they say that they would be so afraid of all kinds of toxins getting through that filter. It is very easy to make the filter, the bottles and the water all sterile, but the mouth and the nostrils it would be hard to make sterile. Also would it not the auditory canal? Do you know of anyone in Chicago that is using this treatment for asthma and hay-fever?

I wrote to Dr. Duncan and he said in hay-fever never give a stronger dose than 1 to 1000, and he did not tell me how many drops of the 1 to 1000 to give. I imagine that he took so much of the filtrate and so many drops sterile water to make the 1 to 1000.

Thanking you, Dr. Shemeley, for a reply to this letter and the technique that you might place me straight upon, I am,

Most fraternally yours,

(Signed) Wm. M. Trowbridge.

July 5, 1921.

Dr. William M. Trowbridge,

Viroqua, Wisconsin.

My dear Doctor Trowbridge:

In answering your letter of June 28th, the thought occurred to me that possibly a number of other physicians might wish to be enlightened along the same lines as your questions, which I am answering as per the enclosed: I am, therefore, asking your permission to publish your letter together with the answers to the questions asked in the Journal of Ophthalmology, Otology and Laryngology. If this meets with your approval, kindly advise me to that effect.

Sincerely yours,

(W. G. S.)

Question.—Is the filtrate sterile? ("—but it looked to me that the filter would not be sterile").

Answer.—Assuming that the solution that runs through the

filter is referred to, this can be easily settled by culture. In no instance has the filtrate been found unsterile by me or by Dr. G. W. Mackenzie, with whom I am associated, and whose experience with this form of treatment is many times greater than mine.

Answer (No. 2).—If the question is relative to the Berkfeld Filter itself, you need have no fear; but check up on it from time to time by laboratory examination.

Question.—Do you think it would be all right for me to expectorate a mouthful of this sputum right from my mouth into a sterile 2 oz. of water?

Answer.—Absolutely. The bacteria found in the buccal cavity will represent the mixed infection that, as a rule, accompanies both hay-fever and asthma.

Question.—When it comes hay-fever time, may I ask you how you collect the secretion from the nostrils?

Answer.—Two small sterile pledgets are placed in the nose (one in each side) preferably in the middle turbinate region. The anterior nares are then plugged with sterile cotton to keep out extraneous bacteria from the atmosphere. These are allowed to remain in place for five or ten minutes. The external cotton plugs are then removed and discarded and with sterile forceps the cotton pledgets are removed and placed in the water container of the Berkfeld Filter.

Relative to the matter of foreign toxins: At present it would seem that hay-fever is many times the result of a complexity of causative factors so that bacterial toxins have their place as well as vegetable toxins. For this reason we advocate autotherapy, since the filtrate represents the exact proteid poison plus any other contributary bacterial toxins. Again, due attention must be paid to any intranasal or sinus abnormalities, and where these exist they should be corrected.

Answer.—If the secretion is from a furuncle in the auditory canal, collect the secretion on a sterile ear-spoon curette. If the case is one of a suppurative middle-ear condition, the canal should first be packed with alcohol gauze. This is permitted to remain in place for ten minutes and then removed. With a sterile applicator, wound with a small pledget of sterile cotton, the secretion is collected and transferred to the filter.

Question.—How is the filtrate prepared for injection, and what is the primary dose?

Answer.—Scratch two marks on the bottle representing 1 dram and 9 drams (1 dram and 9 drams fluid=10 drams). If the filtrate is more than 1 dram, shake thoroughly for several minutes and pour off excess. The bottle is then filled with 9 drams sterile water and agitated for several minutes; this now represents 1/10 of the original filtrate or the 1x. Repeating this procedure gives 1/100 of the original filtrate, or 2x. Repeating again it represents 1/1000 of the original filtrate, or the 3x. In this manner ascend until you reach the 6x. The primary amount to be injected is 0.5 cc. of the 6x. If no reaction results (of course, the patient's temperature should be taken before giving the injection), the next day, or the second day following, the 4x may be used, again injecting 0.5 cc. This dose is increased to 0.75 cc. and then to 1 cc.; but here 0.5 cc. of the 3x may be used, avoiding the use of a large amount of fluid. If a reaction is produced, no further injection is given for 72 hours, or longer if the symptoms persist.

Ocular Symptoms of Encephalitis Lethargica.—Berger Malling, *Norsk. Mag. f. Laegevidensk,* Christiana, May, 1921, states that "Sleeping Sickness," encephalitis lethargica, causes paralysis of the external and internal muscles of the eye. Symptoms usually are bilateral and equally strong on each side. The fact that the third, fourth, fifth, sixth and the seventh cranial nerves are attacked at the same time, and that some of the muscles which are innervated by the oculomotor nerve are attacked while others are not, point to a nuclear type of paralysis. Pathologic-anatomic findings show numerous foci of inflammation corresponding to the nuclear centers involved. W. G. S., Jr.

THE DEVIATED SEPTUM AND ITS CORRECTION IN YOUNG CHILDREN *

G. J. ALEXANDER, M.D.

Philadelphia, Pa.

IT is common knowledge that the presence of adenoids, hypertrophied or submerged diseased tonsils in young children, acting as extra-nasal causes of obstruction to breathing through the nose, naso-pharyngeal catarrh, middle ear disease, defective hearing, etc., have received a great deal of serious thought and attention from the profession and the laity, resulting in immeasurable good to humanity. However, during the development of the thorough understanding and care of these extra-nasal causes of inflammation and obstruction, there has been overlooked more or less completely the significance of intra-nasal causes, inflammatory and obstructive, in these young patients.

Of these the septum is the most important, because it is so frequently found deformed as the result of undue thickening of the upper part of the quadrilateral cartilage, deviation and irregularity, with actual ridges and spurs that include the cartilaginous and bony portions.

It is not generally known at present that these deformities of the septum, developmental in type, make their appearance so early in life, and though St. Clair Thomson says deformities of the septum are rare before the second dentition, the writer, by reason of his special study of the subject, presumes to state that he has been able to demonstrate their presence as early as the second year, seeming to reach the maximum of frequency of their appearance from the third to the sixth year, decreasing perceptibly in number between the sixth and tenth year, and from then on in proportion to and beyond puberty.

Ridges and spurs begin to figure prominently in the deformity in the period between five and eight years of age, increasing in number up to possibly adult age. In fact, it is the conclusion of the

*Read at the annual meeting of the Southern Homœopathic Medical Society, Richmond, Va., November, 1920.

author that the greater portion of the developmental deformities of the septum make their appearance between the third and eighth year, and that this particular form, though the fracture-form type must be included, is absolutely progressive and accumulative in degree of deformity, practically until middle life.

For the development of these deformities at such an early age there must be certain causes; hence, those that are considered to figure most prominently are: (1) Diathesis, (2) Family Tendency, (3) Hypernutrition, and (4) Adenoids. Too much stress is given the importance of the latter as the cause of septal deformities by many rhinologists who claim they are the result of the high-arched palate caused by the presence of adenoids. The inaccuracy of this idea is easily proven by the fact that we have many deviated septums without high-arched palates and high-arched palates without adenoids.

As another cause, who would question the influence exerted upon the development of the delicate pliable septum by the strong and sturdy bony framework that surrounds it, after studying the picture of the skull on page 110, Fig. 85, in "The Nose and Olfactory Organ," by Schaeffer. This figure shows the superior maxillary bone slanting upward to the left, the left nasal cavity higher than the right, the septum buckled to the left and the left frontal sinus a mere slit, which surely suggests that a deviated septum can result from a deformed nasal chamber caused by the irregular development of its framework or one of the accessory sinuses.

The fracture-form type of septal deformity is due to traumatism, and is quoted by many as being the most common exciting cause of deformities of the septum. This has not been true in my experience, where this type of deformity has been rather infrequent and almost bordering on the exception. I am pleased to note, too, that such observers as Zuckerkandl, Fletcher, Ingalls and Asch feel skeptical as to the frequency of this influence.

Deformities of the septum in these young patients, as in those older, cause a decided obstruction to nasal breathing, increased susceptibility to colds in the head, sinus involvement, hay-fever (so-called), asthma and chronic catarrh of the nose and sinuses, narrowing of the nose, alar collapse, mouth-breathing, high-arched

palate, irregular teeth, decreased vitality and practically all conditions that result from nasal obstruction, whatever the type.

Since it is a fact thoroughly established and generally accepted that extra-nasal obstructions to nasal breathing, notably adenoids, should be eliminated for the best good of the patient, why should not the same rule hold good for the removal of intra-nasal obstructions under proper conditions? Is it not clear to all of us that when nasal obstruction is found to be due to two distinct causes, for example, adenoids and septal deformity, if we remove the adenoids and allow the deformed septum to remain, continuing its obstructive function, we have only treated the patient in an incomplete manner, and only partial results will have been obtained? If this is not plain to us, it should be. The writer has encountered numerous examples wherein, for instance, adenoids were thoroughly removed, and patients referred back inside of a year complaining of obstruction to nasal breathing, when a deviated septum was the remaining cause. These, with many instances of nasal obstruction and mouth breathing due to presence of a deformed septum, were the means of convincing him of the importance of removing the intra-nasal causes as well as those extra-nasal, whether they exist separately or in combination. Hence, in this manner the study and practice of the submucous resection of the septum in young children, when necessary, had its inception and has since been regularly carried out by the writer.

The technic of this operation under these circumstances does not need to be mentioned at this time, as it has been fully explained in previous papers on the subject.

The advantages of this operation include all those that are required for the relief of conditions resulting from interference with nasal breathing and causing an inflammatory process in the nose or upper respiratory passages, with the special advantage of being more complete than modified and substitute operations that do not thoroughly remove the obstructions and contact points in the nose.

The writer is cognizant of the fact that many authorities object to this operation in young children and disagree with him on a number of the points emphasized in this paper, the following being a few of the more common of the dissenting opinions or ideas. St. Clair Thomson says it is well to avoid operations on the septum in

young children but gives no reason. Wright and Smith say the cartilaginous septum is usually straight, excepting in injury, until after puberty, and should not be operated under this age. They fear the removal of cartilage from the undeveloped nose of a child; dislike the difficulties associated with the intractability of the child during subsequent treatment, and deprecate the practice of operating on the nasal septum of any but adults. Other operators prefer the operations of Gleason, Asch and Watson, in fear of removing cartilage from the undeveloped nose of a child. Foster, of New York, prefers to remove turbinates from the child's nose rather than operate upon the septum, because he claims the nose will not develop properly after such an operation, and others are content to remove the adenoids, claiming that a readjustment of the septum and the high-arched palate will follow.

It is distinctly visible that the most confusing element associated with this operation is the fact that both the patient and the deformity are in the period of early development at the same time, causing fear that interference before puberty or adolescence will result in failure of development of the nose in proportion with the development of other parts of the child's face; and largely for this reason operation is disapproved and postponed, the child being forced to struggle along under disadvantages that should have been overcome when the cause was first discovered.

The principal feature of this paper, because of the diversity of opinion, is the endeavor to bring about order out of confusion by the assurance that in my experience there need be no fear of removing the cartilage from or operating upon an undeveloped nose if it is properly done.

I, therefore, venture to recommend this operation on the foundation of considerable experience and observation of a number of these patients over varying periods for five years, which enables me to make the favorable report that there have been no untoward effects. To the contrary, all noses are developing as they should and the results are most gratifying.

Why should the nose not develop? For no reason so far as I can see. In the first place, cartilage is left in the nose to support and maintain the shape of the cartilaginous portion, and what is to prevent this from developing with the other parts of the nose? Secondly, the heavy, bony framework in the upper part of the nose

influences the development of the septum, while there is little or no likelihood of the delicate nasal septum having any influence upon the formation or support of this rugged covering.

To substitute for the submucous resection of the septum the removal and sacrifice of a turbinate appeals to me as being most unnecessary and undesirable when one considers the loss of the important function of this body.

The idea of removing adenoids for the correction of a deformed septum and the high-arched palate is hopelessly wrong, because readjustment of a deviated septum and a high-arched palate does not take place except by mechanical interference.

When all is justly considered, the disadvantages associated with this operation as I see them are those of the operator, namely: (1) The general anaesthesia, (2) Inconvenience of position, (3) Smallness of space in the nose, (4) Bleeding during operation, and (5) Difficulty of dissection in a number of the cases, due to the adherence of the perichondrium and periosteum to the cartilage and bone.

These conditions make for a tedious operation and is, I fear, one of the principal reasons why the practice of this operation is sometimes discontinued by operators who otherwise were pleased with the results obtained by it. It certainly is an operation in which the operator must consider his own comfort and convenience last, if at all. However, if the advantage to the patient is uppermost in the mind of the surgeon, the results will go far toward easing up the inconvenience of the operator.

Finally, I want to make a plea for careful observation, in all instances, of the nose of children, and for the correction of septal deformity wherever consistent, without fear, with assurance that the results will be of wonderful advantage to the patients and most satisfying to all concerned.

1831 Chestnut Street.

HYPERPLASTIC ETHMOIDITIS *

H. M. Sage, M.D.,

Columbus, Ohio.

RHINOLOGISTS have long been cognizant of a symptom complex characterized by a hyperplasia of the nasal mucous membrane, especially of the region of the ethmoid. To this nasal condition the name hyperplastic ethmoiditis has been given. It has also been observed that this tissue-change is usually associated with systemic conditions that could not be explained by nasal stenosis alone. Furthermore, there are other nasal disorders, spoken of as vasomotor disturbances, which also show a similarity to these same systemic reactions. From clinical observation of these cases the essayist has concluded that in addition to hay-fever, asthma and urticaria, nasal hydrorrhea, some types of hyperplastic rhinitis, and hyperplastic ethmoiditis, are but varied manifestations of that reaction of an organism to protein known as anaphylaxis.

The theory of protein anaphylaxis as evolved by Vaughn, Freberg and others who have done extensive experimentation on guinea pigs, rabbits, cats, dogs and rats, is that when a foreign protein is introduced into the body, it is broken up slowly into end-products, some of which are poisonous. This reduction of the complex molecule is brought about by a substance prepared slowly by the organism. After the foreign protein has been broken up the organism does not cease to secrete the enzyme for that particular protein, but continues until there is an excess in the system. Now, if after an interval of a few days another, the second introduction is made, the foreign molecule is broken up so rapidly that there is an excess of the poisonous end-product in the blood.

Experimental work has also shown that all animals will react to foreign protein, but each with symptoms characteristic of the species. Of all the animals used for experimentation the guinea pig is the most sensitive, and from clinical observations probably man the least. However, there are certain characteristic reactions

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

of certain tissues in each species, the degree of aggravation resulting from anatomic variations. In the guinea pig, which animal gives the most characteristic and constant symptoms, the first symptoms are respiratory embarassment, indicated by its scratching its nose and mouth. The animal becomes excited, coughs, and there is an expulsion of urine and feces. This stage is followed by one of paresis, the animal becomes limp, has intermittent spasmodic jerkings. In rabbits, cats and dogs the symptoms are similar but not so constant. There are less active respiratory symptoms, but more active peristalsis. Also in these animals it has been especially shown that there is an early rise in blood-pressure and later a sudden fall, as well as a fall in temperature.

Shultz has shown that anaphylaxis is essentially a hypersensitization of smooth muscle-fibres. In the guinea-pig the muscle in the bronchi, in relation to its lumen, is large; consequently the respiratory symptoms. In the dog and cat the musculature of the bronchi is less developed, thus the less-marked respiratory embarrassment but the more marked peristalsis; the musculature of the viscera being better developed in these animals. The initial rise in blood-pressure, followed by a fall, is the result of an early contraction followed by the relaxation.

In man the hay-fevers, inspiratory asthmas, associated often with low blood-pressure and diarrheas, all indicates similar action on smooth muscle-tissue. Furthermore, it also provides an adequate pharmacological explanation of the action of atropin, sedatives and anaesthethics in alleviating or masking the symptoms of acute anaphylaxis.

Aside from severe fall in blood-pressure and temperature, other effects of anaphylaxis are leukopenia, eosinophilia and reduced coagulability of the blood.

In the nose are several conditions that seem to be associated with, and correspond to a type of this same systemic reaction, those most characteristic being hay-fever, hydrorrhea, hyperplastic rhinitis and hyperplastic ethmoiditis. Numerous investigators have shown without a reasonable doubt that hay-fever is an anaphylactic reaction, the source of protein being from the pollen of plants, being carried into the body by the inspired air. Except for the purpose of comparison it need have no further discussion in this paper.

Nasal hydrorrhea, as usually described, is a nasal disturbance having a sudden onset, with itching of the nose, sneezing, followed by profuse watery discharge, continuing for a variable period, and ceasing as suddenly without the purulent discharge characterizing a septic rhinitis. These cases with slight variations are very prevalent.

A very typical one was a girl, sixteen years of age, well-nourished and rosy-complexioned, who came to the clinic complaining that about 3 o'clock every morning she was awakened by sneezing, stuffiness of the nose, and a profuse watery discharge from both her nose and eyes. At these times there was also some difficulty in breathing. The attacks usually lasted until about noon, when they subsided as rapidly as they had begun. The patient was frequently seen during these attacks, and invariably the picture was one of injected and swollen conjunctiva, with profuse lachrymation; upon her face and neck were distinctly outlined areas of capillary dilatation; in her nose the mucosa was a duskly blue-red in color. At first there existed a badly deflected septum the correction of which relieved the condition for about six months, when it returned. Since then there have been periods of exacerbation upon which local internal treatment or dietary measures have had no effect.

Numerous cases could be cited but this one is sufficiently typical for the purposes of discussion. In analyzing this case its sudden onset, and especially its sudden recovery, eliminates the possibility of the pathology being a simple rhinitis. The most usual and plausible explanation is a disturbance of the vaso-motor control of the mucosa vessels. In this I believe most investigators agree, but the origin of this vaso-motor disturbance has been so uncertain that nearly every organ in the body has been assigned as the one in which the irritation originates. Usually that mythical term "nervous reflex," is attributed to be the cause. Not so many years ago hay-fever was also considered a nervous reflex, but it has been shown that the avoidance of certain pollens dispels the mysterious nervous reflex, and so it may be shown that this condition described as nasal hydrorrhea may also be demonstrated to have its origin in an anaphylactic reaction. To be sure there is a striking similarity between the symptoms in this case described and those of a specific protein reaction; the itching, sneezing period being that of contraction of the smooth muscle-fibers of the vessels of the nose, and

the period of discharge corresponding to the period of vessel-wall relaxation. That this particular region be effected is also in accordance with the laws of anaphylaxis. The clinical signs experimentally of protein poisoning are irritation of (a) nasal mucosa, (b) bronchial mucosa, (c) skin, (d) intestinal tract. That the two symptom-complexes coincide clinically is self-evident.

Furthermore, these cases are those destined to eventually become a hyperplastic rhinitis or a hyperplastic ethmoiditis. In a rhinitis resulting from the usual inflammatory causes, such as infection, mechanical or chemical irritations, the pathology is conceded to consist of, first, extravasation of blood and serum into the submucosa; second, either absorption or organization of the fibrin. If the inflammation is frequent or severe the organization of the connective-tissue becomes so profuse that hypertrophy of the mucous membrane exists. This tissue-increase of the connective element has two destinies: If it is not too excessive it will be absorbed without undue damage to the glandular element; if it predominates it will contract as it continues, eventually destroying the glandular element with a resulting atrophic rhinitis. In contra-distinction to hypertrophic rhinitis Kyle describes hyperplastic rhinitis as characterized by an over-growth of connective-tissue in the submucosa, with increase in number of bloodvessels, and especially an increase in the thickness of their walls. Also there is an increase in the epithelial portion, the mucous cells greatly increasing in size and number—normal in appearance but failing to function as normal cells. On the whole there is no tendency to absorb or contract.

Wright, in his writings on the effect of such a chronic irritation upon bone-formation, explains new bone-formation, bone-atrophy, and particularly the bony cysts in the turbinates. He shows that the bone-cell osteoblasts, which cells lay down bone by precipitating certain salts under the influence of certain irritations, become grouped together into giant cells. These giant cells, known as osteoclasts, reverse their action and absorb bone instead of forming it. This change, ordinarily controlled by physiological limitations, is brought about by certain extended inflammations.

The condition known as hyperplastic ethmoiditis, or nasal polypus, so frequent of occurrence, is pathologically characterized by a hypertrophy of the mucous membrane of the nasal cavity,

especially in the region of the middle turbinates and ethmoid bulla. The tissue-change consists of a mucoid degeneration of the mucous membrane with an infiltration of connective tissue. It may vary in morphology and extent from a slight sessile process involving the surface of the middle turbinate about the outer wall of the nose in the region of the infundibulum, even extending into the ethmoid cells, to distinct neoplastic polypoid growths having their bases in the region in which the flat degeneration first occurred.

The appearance and structure of these tissues are too familiar to need detailed description. Of more interest are the early symptoms and particular etiology of this change. These changes are so slow in development that it is practically never possible to follow one of these cases from the onset until the large polypi are present. Consequently the best source of information is a comparison of the appearances of nasal cavities in people who give nearly identical symptoms. Observations from cases as they present themselves have shown that less than half a dozen symptoms are common and nearly constant in the three nasal conditions, hydrorrhea, hyperplastic rhinitis and nasal polypus. Invariably there is the early history of frequent cold without apparent cause, with very sudden onset, marked watery discharge and sneezing. The patients complain that they are unable to avoid taking cold; that the colds come frequently when they are exposed to dust, foul atmosphere and similar conditions. There are intervals of marked stuffiness of the nose. As the condition grows more severe the symptoms of headache, fullness in the head, asthma, and purulent nasal discharge may be added.

It is hardly necessary to add that these early and constant manifestations are nearly identical with those of protein poisoning, as described previously. The later appearance of the asthma is also in accordance with the anaphylaxis. The headache and fullness of the head are merely sensations resulting from pressure in the nasal cavity. The late purulent discharge is a secondary infection after the stenosis of the nose has occurred. That this is a secondary infection is borne out by the fact that a large percentage of nasal polypi are not accompanied by suppuration.

Granting that the etiology is an anaphylaxis, the theory is advanced that the hyperplasia and myxomatous overgrowth later are

the results of long-continued and frequent vascular changes within the nose; vascular because of the action of protein anaphylaxis upon the tissue of the nose. That these same changes do not occur in types of protein disturbance, as in hay-fever, is because the hay-fever patient is not exposed to the conditions over a sufficiently long period. Still it is very frequent that the two conditions exist in the same patients.

In conclusion, I should say that the subject under discussion is one that has been of extreme interest to me for a period of several years, and the given etiology has never been quite satisfactory. The foregoing statements, gathered over an extended time, for which reason I am unable to give a complete biography, and the facts observed in patients are the reasons why I believe it is possible, if not probable, that protein anaphylaxis is the etiology. Many phases of the subject such as source of protein, its entrance into the body, and treatment, have not been touched upon, and purposely. It is well appreciated that no statements have been made that are in any sense convincing, but if work now under way and that which is hoped to be done in the near future proves or disproves the theory, I hope it may be my privilege to present it at another time.

Discussion

W. D. Rowland, Boston: I feel that I should not discuss this paper, because it is very much over my head; but I arise to show my appreciation of the work that Dr. Sage is doing. It is a mark of progress to know that young men will interest themselves and study a problem like this in a scientific way. It was a great pleasure to me to hear him read the paper.

PROPHYLAXIS OF MASTOID INFECTION *

George D. Arndt, M.D.,

Mt. Vernon, Ohio

PROPHYLAXIS of mastoid infection, while very important from the standpoint of the patient, is so unprofitable from the standpoint of the otologic surgeon that it is not strange that greater emphasis is not placed on it in our standard literature on the subject.

Infection and immunity, I presume, are conceived as somewhat too general considerations to be of compelling interest to the specialist, as such; nevertheless, if any treatment will prevent mastoid infection it ought to receive earnest consideration. I would be most reluctant to have a mastoid operation performed on myself or anyone I am much interested in, and while the operation is unfortunately necessary in many instances, some cases might be saved from it by proper treatment.

I realize, also, that it is a thankless undertaking; for the average patient will resist all your efforts for prevention or grudgingly submit as though conferring a personal favor. I have been treated almost as though I were suspected of being a pickpocket when trying my very best to head off trouble for the patient. Nevertheless, having seen so many distressing conditions following the operation for mastoid infection, such as facial paralysis, melancholia and insanity, to say nothing of the fatal cases, I shall continue to try to make an operation unnecessary.

With a fair working understanding of infection and the mechanism of resistance and immunity, one ought to undertake prophylaxis of mastoid infection with considerable confidence. I am not attaching much significance to the fact that I have never had to operate on a single case of mine, though I have wanted to in several instances; but the patient begged off and got well without an operation, assuming the risk of delay. A thoroughly effective prophylaxis will treat every cold in the head as a potential mastoid case,

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

and repeated colds should be looked upon with great suspicion and a focus of infection sought for. Gums, teeth, tonsils, adenoids and sinuses should be thoroughly scrutinized for the source of the trouble, and effective measures instituted to remove or destroy the focus of infection.

Infection consists of a successful invasion and growth of pathogenic bacteria in a tissue; mere presence of bacteria does not constitute infection, for the tissue resistance may be absolute and the presence of bacteria harmless, and usually they are promptly destroyed by phagocytes. Under certain conditions this resistance may be broken down or suspended temporarily. One might specify for pages conditions that lower resistance. Prolonged physical overstrain, depressing emotions, worry, anxiety and fear long continued, reduce resistance and permit infection even from bacteria that may have been present and harmless before.

Mastoid infection is practically never a primary condition, but an extension of the pathogenic invasion from nose, naso-pharynx, tonsils and adenoids by way of the eustachian tube and middle-ear.

The invaders may move slowly, taking sometimes months in their leisurely progress, sometimes making the trip in hours, though fortunately the latter type is rare; but the infection has usually reached the middle-ear, and unfortunately in many cases the mastoid cells, before the otologist is consulted. This rate of progress depends partly on the degree of resistance offered by the patient and partly on the character of the invaders. Much importance has been attached to the character of the infection, whether it be staphylococcic, streptococcic, pneumococcic, colon or mixed, but I am convinced that the most important consideration is the resistance of the patient, for it is among those cases where the resistance is very low that the unhappy experiences occur. An operation may have been faultlessly performed, and yet the infection keeps on extending until the patient is overwhelmed by the toxemia.

Manifestly, a successful prophylaxis must take these facts into consideration, and in addition take such general counter-measures to overcome the weakness and build up defense as may be available. I use ultra-violet rays; solar light; high frequency; hypodermics of modified proteins; autogenous or stock vaccines, and such general therapeutic and dietetic measures as may seem to me

indicated, and take such measures as may be necessary to build up the morale of the individual, for I believe phagocytes are like individuals in that they are demoralized in an atmosphere of fear. So much for general measures.

Local measures will necessarily depend on the stage of invasion. Suitable care of the nose, naso-pharynx and throat should be provided, and if the infection has invaded the middle-ear prompt drainage should be instituted. I don't consider mere perforation of the tympanic membrane sufficient for drainage. I usually employ suction in connection, and use it vigorously enough to induce in addition to drainage an active hyperemia. The manner in which suction is applied is important; at first the head should be inclined so as to favor drainage, and as soon as the tympanum is thoroughly drained, as indicated by the pink stain in the fluid obtained, the head should be inclined to the opposite side, a few drops of a suitable antiseptic instilled (I use potassio-mercuric-iodide) and interrupted suction employed. This is an effective method of getting the antiseptic into the tympanum, which in conjunction with the local active hyperemia induced by the suction is very effective in controlling the infection at this stage and will usually cure an attack in a few days. I have found this treatment effective in all types of cases, though other measures will undoubtedly be suggested by unusual cases. I have used alcohol, iodine, and silver nitrate also with good results; but suction followed by potassio-mercuric-iodide and interrupted suction have been generally satisfactory measures, and in conjunction with vaccines and other necessaries I have indicated have so far proven in my experience absolutely effective prophylaxis of mastoid infection.

Discussion

Walter M. Yost, Rochester, Pa.: May I ask the strength of the potassium and mercuric iodide that was used?

G. D. Arndt: About 1:500.

Neil Bentley, Detroit, Mich.: I should like to mention a rule that I have rather come to make, not so much concerning the acute conditions as in the chronic mastoid cases. I presume that Dr. Arndt will agree with me that practically all acute cases of

otitis media are acute mastoiditis; but we are limiting the word mastoiditis to those cases that require operative interference. Any otitis media, certainly after a few days' duration, will probably show mastoid involvement. The rule that I have come to make is that any case that has a simple chronic discharge of the ear must have the tonsils removed and intranasal abnormalities corrected before I am ready to do a radical mastoid operation. I am referring now to chronic cases that require radical operation, according to the commonly held views. It is surprising the number of chronic discharging ears that will clear up after a T. and A. or a submucous. I make the rule to take the tonsils out, whether they happen to need it or not; because these tonsils will often give trouble, even though there is no history of the disease and no evidence shown in the tonsils.

G. D. Arndt: I do not think of anything further to say.

When General Leonard Wood was a small boy he was called up in the grammar class. The teacher said: "Leonard, give me a sentence and we'll see if you can change it into the imperative mood."

"The horse draws the cart," said Leonard.

"Very good. Now change the sentence into the imperative."

"Get up!" said young Wood.—*Success.*

The notice in the rooms of hotels which reads, "Have you left anything?" should be changed to, "Have you anything left?" —*Life.*

A RADICAL MASTOID OPERATION BY NATURE

JOSEPH V. F. CLAY, M.D., F.A.C.S.,

Philadelphia, Pa.

IN these days of modern otological surgery, nature's methods of attempted cure in suppurative mastoid disease are of less common occurrence than formerly. Post-auricular rupture with the formation of a fistula may, in this day, be considered an otological curiosity. Because of this we are encouraged to report briefly a case which came under our care a few months ago.

A male child, four years of age, the second child of vigorous parents, was born at term, artificially fed and progressed normally to the age of five months, when it developed measles. During this infection the cervical lymphatics on the left side became enlarged and a discharge appeared from the left ear. One month later the right ear started to discharge. Five months later a swelling appeared over the left mastoid region. This was incised by the family physician. Through this incision drainage occurred for several months and then the opening healed. One month after the first mastoid became involved the right mastoid presented a swelling.

The family had now changed physicians and had come under the care of one who was not in accord with the previous incision of the left mastoid, and who promised the parents that he would cure the child without an operation. The right post-auricular abscess ruptured through the skin and a fistula was established through which there was a discharge for over three years. During this long siege, the child was treated by internal medication. Development of speech was interrupted just at the time the child was beginning to utter single words. It then dawned upon the parents that the child was deaf. The teeth became carious almost as soon as they erupted. Doctors were again changed, This time the physician consulted found a hard protruding mass in the right external auditory canal, and concluded it was a bony growth.

Upon examination we found a post-auricular fistula on the right side through which a horribly offensive purulent discharge was draining. A probe passed into a large cavity. The right external auditory meatus was occluded by an impacted sequestrum, the slight-

est manipulation of which caused free bleeding. The anterior cervical lymphatics were enlarged. The left mastoid and cervical region presented a series of scars and skin tabs. The left external canal contained a slight amount of purulent discharge. There was no evidence of landmarks in the fundus of the canal, but a granular membrane lining the middle ear cavity was seen.

The child is deaf. The general appearance of the patient was that frequently observed in subjects of protracted septic absorption. The skin was pasty looking and the teeth were practically devoid of the normal enamel covering.

At operation the post-auricular fistula was found to lead directly into the mastoid antrum. The anterior wall of the mastoid had necrosed, sequestrated, and was lying in the external auditory canal. The middle-ear cavity was filled with granulations and epithelial debris. The bony labyrinth was exposed to this foul cavity but was apparently intact. A large defect was noted in the tegmen tympani exposing the middle cerebral fossa. The cavity was curetted and the necessary finishing touches applied in order to complete the radical mastoid operation started by nature. A plastic operation was performed, removing the fistulous tract and flap undermining and sliding to close the post-auricular defect.

The child made an uneventful recovery, leaving the hospital in eight days with a healed post-auricular wound. The tympanic cavity was discharging some purulent secretion but the odor was absent.

Nature had in this case performed a very successful operation in that the patient's life was spared. This occurred because nature sought an outlet for the abscess through the outer plate of the mastoid. Had it on the other hand chosen the inner plate, as very commonly occurs, and the policy of non-interference been pursued, there would have been in all probability a different ending to the story.

Rainy Days the Best Days.—Albert J. Beveridge, former United States Senator from Indiana, canvassed for books during his vacations while a student at college. In reference to this experience he said: "In addition to applying my plan with all the cleverness I could summon, I walked many miles a day, heedless of the weather. My purpose was too serious to permit me to be

merely a sunshine canvasser, and I soon found out that rainy days when I tramped up to a farmhouse, muddy and dripping, were apt to be the most fruitful of all, because the farmers were likely to be indoors with leisure to listen to my eloquence. The results of my efforts exceeded my expectations."—*Success.*

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Editorial

ANNOUNCEMENT

FOR some time past members of the O., O. and L. Society have expressed themselves in favor of a special, brief, late fall meeting, where we could get together, consult and outline plans for the regular June, 1922, meeting.

In view of the fact that the Southern Homœopathic Medical Society convenes in Cincinnati, November 16th, 17th and 18th, I, therefore, take this occasion to call an informal meeting of the O., O. and L. members to meet Thursday, November 17th, at 2 P. M., with the Southern Society Eye, Ear, Nose and Throat Bureau. The chairman of the Bureau this year is Dean W. Myers, of Ann Arbor, Michigan. I can assure you of a real profitable and pleasant afternoon.

Detailed program for Thursday, November 17, 1921:

Twelve o'clock—O., O. and L. Society luncheon. Members of O., O. and L. Society guests of J. R. McCleary.

Two P. M.—Southern Society Eye, Ear, Nose and Throat Bureau. Chairman, Dean W. Myers, M.D.

Six-thirty P. M.—Southern Homœopathic Medical Society's dinner-banquet, Burton Haseltine, M.D., toastmaster. All who can attend are cordially invited to be present.

J. R. McCleary, *President.*

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY

THE 1921 meeting of the American Academy of Ophthalmology and Oto-Laryngology takes place in Philadelphia the week of October 17th. This is the largest society of eye, ear, nose and throat specialists in the country, at the same time the

most democratic. The average attendance runs considerably over a thousand. The quality of the papers and discussions offered at its meetings is always good. Philadelphia welcomes the eye, ear, nose and throat specialists of America. Come and stay two weeks. During the week following the Academy meeting, the Clinical Congress of Surgeons will hold its annual convention. While in Philadelphia the attending physicians are invited to visit the medical colleges, including the Graduate School of Medicine, the hospitals and clinics of the city that have made Philadelphia famous as a medical center. G. W. M.

DIAGNOSTIC AND THERAPEUTIC TEAM-WORK

THE science of medicine has advanced more during the last score of years than it had one hundred years preceding. The rate of progress promises to be even more rapid in the future. The principal reason for this progress appears to be founded less upon individual scientific research than the collaboration of research in different but co-ordinated fields. The collaboration of experts was begun in earnest about a generation ago. Indeed, collaboration does not need to be limited to experts in order to accomplish results. Team-work among the mediocre will accomplish more than the lack of team-work among a lot of the more expert. The success of team-work has been proven over and over again. No one will dare deny its benefits. The only marvel is that it is not more unanimously tried. Like the proverbial snowball, it will gradually grow. The number of diagnostic teams will probably increase to ten times the present number in as many years. Hardly a week passes that the editor does not receive an announcement of a new team that has recently organized.

The time will come when the fellow who is not connected with a diagnostic team will appear not only to the profession, but to the laity, as well, as a discarded and handicapped outsider.

It is to the credit of the O., O. & L. Society that diagnostic team-work was advocated by its leaders as far back as our memory reaches. Many of them at the present time are connected with such teams.

The one holdback seems to have been its unpopularity in the

beginning, a fact that is true of every innovation whether it be in medicine or other fields of endeavor. The fossils in medicine in the past have been inclined to frown down upon team-work in medicine, arguing that the cost to the patient would be prohibitive, especially to those of the middle-class who could neither stand the cost nor would care to ask for free attention at the charity institutions. This objection can be overcome like all others are eventually, but that is another problem which in no way can lessen the value of team-work in medicine, for the good of the patient first of all, and the advancement of medical science incidentally. No matter how learned a specialist may be in his particular line, he is practically helpless without assistance from others skilled in other branches of medicine. To be sure it is more costly, but the patient receives something in return. Formerly the practitioner of medicine without assistance was so handicapped as to leave a good deal to guesswork, and guesswork is costly, more so to the laity than to the physician who tries his luck at guessing.

All hail to the greatest boon to medicine—Diagnostic and prescribing team-work! G. W. M.

INTERNATIONAL MEDICAL AND SURGICAL SURVEY

THE above-mentioned *Survey* is published monthly by the *American Institute of Medicine*. It is more than an index medicus in that it publishes monthly abstracts of considerable length of practically every medical article published in the world, even to its most remote corners. It is a ready reference to every one who desires to keep abreast of the times medically. The publication of the *Survey* marks a new period of advancement in medicine. Since having subscribed for it the editor wonders how he ever managed to get along without it. He recommends the *Survey* to every medical man generally, and to specialists particularly, whether he be located in a large city with libraries easy of access, or in an isolated place where libraries are inaccessible. For the benefit of those not familiar with the *Survey* the address of the *American Institute of Medicine* is forwarded: 13 East 47th Street, New York City. G. W. M.

THE following abstract is presented as a sample of what one may find in the pages of the *International Medical and Surgical Survey* with the object of presenting in a concise form some suggestions of value to those not acquainted with the use of the remedies included in the abstract. The abstract is quoted liberally.

Harry Gradle, *Illinois M. J.*, 39:440, May, 1921.

Attention is called to the conservative attitude of oculists toward some of the recently introduced drugs that possess qualities perhaps not belonging to the "old reliables." A wider use of these newer preparations, all of which are manufactured in this country, is urged.

Resorcin, long a favorite therapeutic agent in dermatology, is strongly recommended for the treatment of ulcerative blepharitis and certain types of conjunctivitis. For the lid cases Dr. Gradle has found the following ointment very efficacious:

Resorcin	0.2
Precipitated Sulphur	0.2
Lanolin	5.0
Vaselin	5.0

A solution of resorcin for use in the eyes should not be more than 2 per cent. strength, because even that produces considerable smarting. It is noted that a peculiar action of this drug appears in cases of hordeolum or chalazion; in either of these conditions the severity of the pathological condition is increased by use of this solution, probably because of its astringent action.

Fluorescin zinc (a combination of potassium fluorate and zinc sulphate) is said to be a specific in the treatment of Morax-Axenfeld conjunctivitis, one application generally being sufficient. The powdered drug is dusted on the conjunctival surface of the everted lower lid and then rubbed into a smooth paste by aid of a cotton applicator. The first effect is the sensation of the presence of a foreign body and then follows a flow of tears which slowly dissolve the powder and spread it over the entire conjunctiva. The tears are colored yellowish-green but the stain imparted to linen is not a permanent one.

Mercurophen has about fifty times the bactericidal powers of bichlorid and is infinitely less toxic to the human organism. It is seldom sufficient alone to overcome an infection but it has a dis-

tinct value as an antiseptic irrigating fluid in the strength of 1:5000 or weaker and instruments may be sterilized in a 1:1000 solution without injury to the steel.

Ethylhydrocuprein is said to be a specific against pure cultures of the pneumococcus, but inasmuch as few cases of opthalmic infection are purely pneumococcic and the drug is without influence upon other organisms, its value in ophthalmology is very slight. The most striking results have been obtained from its use in serpiginous ulcer of the cornea and in xerosis of the conjunctiva where the pathologic changes melt away as if by magic.

Mercurochrome 220 soluble, a combination of fluorescin and mercury, is especially indicated in acute purulent infections of the conjunctiva, cornea and tear sac; the more acute the condition, the better will be the result. It should be used in from one-half to two per cent. solution, and it must be remembered that it stains everything with which it comes into contact a brilliant red, though this stain may be removed by cold water, with difficulty, and with acidulated alcohol somewhat more easily. In hordeola, mercurochrome combined with hot applications is of the greatest value and many of these inflammations may be brought to an early end by its prompt employment. It is probably the most valuable addition of recent years to the ophthalmic armamentarium for it is applicable to all of the serious external infections and the rapidity of its action in many instances is marvelous.

Holocain is a drug that should be better known and more extensively employed. It is a corneal anesthetic which does not dilate the pupil or affect the tension of the globe. Cocain causes a deeper and more lasting anesthesia, but holocain has the advantages mentioned and its anesthesia is quite sufficient for most minor operations and manipulations about the eye. In addition, it seems to diminish photophobia in a remarkable manner and to induce absorption of corneal infiltrates.

Anesthetic H, when used in 2 per cent. solution to produce anesthesia of the cornea and conjunctiva, is about twice as efficient as cocain and about four times as rapid in its action. Its toxicity is about the same as that of cocain but it does not affect the pupil or the tension, its rapid penetration and deep anesthesia of the conjunctiva make it especially valuable in chalazion operations or in tear-duct probings.

VENESECTION FOR THE RELIEF OF INTRA-OCULAR HEMORRHAGE.*

J. Ivimey Dowling, M.D., F.A.C.S.,

Albany, N. Y.

VENESECTION or phlebotomy is one of the oldest therapeutic measures known. The removal of blood to relieve disease symptoms has been traced back as far as 2500 B. C. Hippocrates (460-370 B. C.), wrote a treatise on this subject and Galen discussed at great length the indications for blood-letting and the amount to be withdrawn. Sydenham (1624-1689) used this procedure and advised the removal of from 8-10 ounces of blood for the relief of certain distressing symptoms.

Hahnemann (1755-1843) founded the indictment of orthodox medical practice largely because of the indiscriminate bleeding then in favor among the German physicians.

This procedure has been aptly called "The Lost Art." Why has it been neglected so much by the man of the past century? Probably the greatest reason for its decline in favor was its indiscriminate use. This irrational application of an efficient means of relieving distressing symptoms brought it into disrepute. Literature of olden times is lacking in exact indications for the use and accurate data on results of blood-letting. At present many doubt its therapeutic value because it is used too late in the course of the disease. In order to appreciate the efficacy of this procedure one must understand how it acts to relieve symptoms and what symptoms it will relieve, *i. e.,* its indications.

As to how it acts there are many theories, no one of which is sufficient in itself, but a combination of all will explain its action.

Venesection.—1. Reduces somewhat the amount of blood going to the right side of the heart and then allows dilatation to subside. This reduces the peripheral stasis as evidenced by edema, enlarged and tender liver, ascites, etc. The heart can then force the

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

blood through the lungs better and thus relieve the congestion with its accompanying dyspnoea, cough, etc.

2. In some cases blood-pressure is lessened, especially in cases of hypertension. In cases of normal tension there is little or no reduction of blood-pressure. This reduction, when it does take place, is immediate and lasts longer than that produced by drugs. This reduced blood-pressure throws less work on the myocardium in systole and is, therefore, beneficial in cases of decompensation.

3. Reduces the viscosity of the blood and consequently increases the velocity of the circulation which brings more blood to an organ in a given unit of time and taxes the heart less. The benefit of this is obvious. Burton and Opitz have shown that within ½ to 1 hour after venesection and the withdrawal of from 8 to 16 ounces of blood the viscosity is noticeably diminished.

4. There are some toxins removed in the blood by venesection and this is of great consequence. Some obstetricians hold that the loss of blood in child-birth in patients with toxaemia or eclampsia is of great benefit. Ide in a recent article quoted in the *Journal of the A. M. A.*, has drawn attention to the fact that in 30 per cent. of all influenza cases there was epistaxis. He thinks that this is nature's way of eliminating toxins. At any rate epistaxis relieves the symptoms.

When we attempt to give the indications for venesection we must bear in mind that it is for the relief of symptoms and not the cure of the disease.

C. H. Lawrence, of Boston, conducted a series of careful experiments on venesection in a large number of cases in which he recorded the subjective and objective symptoms, before and after venesection. He also kept similar records of the pulse, temperature and respiration, the blood-pressure, and the urinary output. The experiments were on three groups of cases.

1. Cardiac valvular disease with decompensation.

2. Chronic nephritis with hypertension and cardiac hypertrophy, and showing evidences of circulatory failure or impending uraemia.

3. Cases of hyperpiesis or "essential hypertension."

Beneficial results were obtained in all cases. He concluded that:

1. Venesection is safe and the "dose" can be measured.

2. It acted more quickly and was more permanent than results obtained with drugs.

3. The amount to be withdrawn is such as will give relief, the usual error being that too little blood is removed.

4. Repeated blood-letting in small amounts (6-10 ounces) does not seem to have any ill effects upon the composition of the blood.

Robinson has called attention to the fact that many eye-diseases are benefited by venesection. The appended case records seem to corroborate his findings.

Case No. 1,—Mrs. Wm. C. F., at the age of 33, first consulted me in 1913, at which time she complained of some disturbance of hearing and simple condition of the eyes which was readily overcome by treatment.

During succeeding years there was no particular evidence of local or systemic disturbance, until in December, 1919, she was led to seek advice because of what she believed to be a simple cold in the eye with severe right-sided pain.

The vision of the right eye was reduced to 20/100 and that of the left eye to 20/30.

There were small hemorrhages through the fundus of the left eye although none in the right eye. At this time a Wassermann was taken which proved negative, and the urinalysis, except for showing a trace of albumen, was negative. Radiographs of the sinuses indicated some chronic disease of the antrum. This was believed to be the probable exciting cause, and radical operation on the right antrum was performed. Two weeks later the left antrum was operated after like manner.

The antrums were found to be filled with polypoid masses.

These operations were shortly followed by improved vision of the right eye, but lessened vision of the left eye. However, within six weeks the vision of the right eye was 20/40 and that of the left eye 20/20.

The blood-pressure, S. 240, D. 140. At other times it reached as high as S. 260 and D. 150.

Under treatment this was somewhat reduced, but the evidence of cardiovascular disease continued, and at no time were we able to offer favorable prognosis either as to vision or life.

Later on, in January, 1921, there was a sudden loss of vision

with contraction of the fields. It was found at this time that there were many fairly large hemorrhages scattered throughout the fundus of each eye.

Blood-letting was advised and performed by Dr. Gillette at intervals from January 24th to February 7th. Blood was drawn three times, each time with benefit to her general condition and with improved vision.

The hemorrhage gradually absorbed from the center to the periphery.

The quantity of blood taken was sixteen ounces, twelve ounces, and ten ounces.

Vision remained good and at the last consultation on February 4th equalled, right eye 20/20, left eye 20/15, and the fundus, both eyes, appeared normal except for a slight edema of the disk and continued fullness of the veins.

February 7th the patient spoke of feeling particularly good, and very happy because no longer an invalid. After walking a few blocks she returned home and suddenly fell down dead.

The points of interest in this case were improved general health and prompt relief of eye-symptoms.

Case No. 2—Mr. Wm. P. R., a gentleman who was engaged in active mental work his entire life, fine physical state, and since 1908 had consulted the writer from time to time for glasses.

There was nothing of significance until November, 1919, when there was sudden impairment of vision in the left eye. The eye at that time showed vision, O. D. 20/20, O. S. 20/40, and with correction, O. D. 20/20, O. S. 20/20.

At this time the fundus of the left eye was somewhat hazy, the disk blurred and the retinal vessels tortuous.

One week later the vision of the left eye had fallen to 20/70 and the disk of this eye was now swollen. The tension of the right eye was 35 and the left eye 45 (McLean). Visual fields for white and red were normal. Wassermann negative. Urinalysis showed a trace of albumen. The blood-pressure was 180 systolic.

He was referred to his family physician, Dr. Gorham, who reported the usual symptoms incident to cardiovascular disease.

Under treatment the vision of the left eye gradually improved to 20/30, with correction 20/20.

In December, 1919, the ophthalmoscope revealed many sub-

retinal hemorrhages to the temporal side of the disk and the right lens showed a few cataractous lines. The left lens was normal. A month later the hemorrhages had been absorbed, but the disk was pale and vision reduced to 20/50, with correction 20/40.

In February, 1920, he became very nervous and the blood-pressure was S. 300, D. 140. This was reduced under high-frequency treatment so that it shortly was S. 200, D. 100, with great improvement in the general conditions.

In March, 1920, it was observed that the middle turbinates had become enlarged and there was evidence of hyperplastic ethmoiditis, more pronounced on the left side. At this time it was also observed that the pulsation of the central vein was marked and in the macular region of the left eye there was evidence of colloidal degeneration.

Under treatment the blood-pressure was gradually reduced, so that later in March it was S. 260, D. 180, and the urinalysis at this time showed a slight trace of albumen, but no casts. The corrected vision was normal for the right eye, but because of the macular changes the vision of the left eye showed no change.

May, 1920, the ethmoiditis on the left side had become more pronounced, and the middle turbinate more enlarged, pressing upon a posterior triangular septal ridge approximating the region of Meckel's ganglion.

The average blood-pressure was S. 210 and D. 110.

He was allowed to go away for the summer. While on a visit in Boston he suddenly lost the vision of the left eye. Dr. Wells, of Boston, reported that there was a detachment of the retina, with hemorrhages.

When seen in December, 1920, he was very nervous, the left eye being blind. The vision of the right eye was normal. His general condition continued fair and he was in quite a happy frame of mind until December 31, 1920, when he suffered a sub-choroidal hemorrhage of the right eye which was on the temporal side below the sub-temporal vessels and encroaching upon the macular region. The blood-pressure had risen to S. 240, D. 120.

Dr. Gorham was called in consultation and blood-letting was advised. This was performed by Dr. L. Whittington Gorham, removing from eight to twelve ounces each time. This was per-

formed on December 31st and repeated on January 1st, 2nd, and 8th, and February 3rd.

The effect of the blood-letting gave relief to the general nervousness, and gradual improvement to the vision was so marked that by January 26th central vision was evident to the degree of 10/100, and this improved vision has since been sustained and his general condition has improved.

The blood-pressure at the present time is S. 240, D. 120. There is no evidence of fresh hemorrhages and the area of the original hemorrhages in the right eye shows the usual degenerative changes, both retinal and choroidal.

There is now present a decided post-nasal dropping due to a catarrhal ethmoiditis, which exhibits no particular causal organism.

Points of interest in this case were that the general health was benefited by the blood-letting and the vision of the eye apparently saved because of the resulting improved tone to the eye. The finger-tension at the time of this trouble showed positive tenseness of the eyeball, which softened decidedly after the blood-letting.

Complicating the ocular condition the sinuses were involved—being a hyperplastic type of ethmoiditis. Rapid absorption of the hemorrhages was incident to the blood-letting, being absorbed first from the central area and gradually disappearing toward the periphery.

Case No. 3.—Mrs. Helen M., age 65, occupation seamstress, presenting a negative family history, she having had diseases of childhood; all teeth absent. Wassermann negative. Urinalysis was negative except for a trace of albumen. At the time of consultation blood-pressure was S. 198, D. 100. Vision, O. D. 20/20, O. S. 20/100.

Her first evidence of trouble was in March, 1921, when a sudden blur came over the left eye.

Ophthalmoscopic examination showed right eye, blurring of optic disk and slight retinal edema. Left eye showed neuro-retinal edema and sub-choroidal hemorrhages in the upper temporal regions.

Blood-letting was resorted to, on April 20th four ounces being withdrawn, three ounces on April 28th and again three ounces on May 7th.

In this case there was also sinus disease. Paracentesis of the maxillary sinuses revealed atrophic condition of the mucous membranes.

After venesection the outlines of both optic disks became clear and distinct, and hemorrhages in left eye slowly absorbed from the center to the periphery.

At the end of a month's time the vessels through the upper temporal region of the left eye were mere white sclerotic threads, the vision having improved to 20/70, which has been sustained to the present time.

Points of interest in this case were the complicating sinus disease, the high blood-pressure and the usual evidence of cardiovascular disease.

Conclusions in All Three of These Cases.—There was prompt relief to the general conditions and improvement to the ocular changes first noted.

The improvement in each case was more rapid than noted in previous cases of similar kind and seemed to be coincident with the blood-letting.

In Case No. 1 the hemorrhages were sub-retinal and were completely absorbed with few pathological changes remaining. In this case the sinus-involvement was polypoid degeneration and the usual changes incident to cardiovascular disease. The patient retained perfect central vision until the time of her sudden death.

In Case No. 2 the sinus complication was hyperplastic ethmoiditis and the benefits to the right eye seemed to be coincident with the blood-letting, and sustained through the relief of the ethmoidal complication by treatment.

In Case No. 3, the sinus complication was atrophy of the mucous linings of the maxillary sinus. The improvement to the eye seemed to be coincident with the blood-letting, and further benefit through the minor operative procedures and treatment for the maxillary disease.

All three cases were negative to Wassermann tests. All three presented very high blood-pressure and all three showed great benefit to the eyes following blood-letting. All three cases were of cardiovascular type with slight nephritic changes.

It is fair to assume that the blood-letting had a very distinct beneficial effect in these cases, and, therefore, venesection might

well be resorted to in any case of sudden loss of vision of similar type.

The teeth in Case No. 1 were in excellent condition, there being no apical abscesses and no evidence of pyorrhea.

Case No. 2. All teeth were sound.

Case No. 3. There were no teeth on either jaw.

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Discussion

G. D. Arndt, Mt. Vernon, Ohio: I should like to suggest, in connection with the treatment outlined, which seems to be a very effective one, that the sustained high blood-pressure can hardly be overcome unless great care is given to the diet. The patient, it seems to me, ought to be put on an absolutely vegetable diet, all meat being eliminated, and auto-condensation employed. I have had a number of cases of the type described by Dr. Dowling, and have found great benefit from following that up. Regulation of the diet and the use of auto-condensation have served to bring down the blood-pressure.

W. D. Rowland, Boston, Mass.: My understanding is that auto-condensation is a very temporary procedure in these cases of hypertension—so temporary that within an hour, possibly, or sometimes a longer time than that, the tension is back to where it was before. I should like to know from those who have used it whether the benefit is considered to be more than a very temporary one from auto-condensation.

Dr. Dowling: Dr. Arndt's remarks concerning diet and other

measures are *apropos,* but I hardly think that anyone treating a case of this kind would overlook them.

The cases which I reported were seen in consultation and the measures under discussion were employed in addition to the usual treatment advised by the internist.

Auto-condensation has been used in all these cases and I believe that Dr. Rowland's statement that it is temporary is correct. We employ it at first, once a day, then less often gradually increasing the period between treatments. It certainly has a distinct value in relieving the high blood-pressure, and is well worth a trial in such cases.

Typical Siderosis of Crystalline Lens. No Clinical Evidence of a Splinter of Iron.—Professor Daniel Van Duyse and Dr. Marcel Davis, *Amer. Jour. of Ophthalmology*, August, 1921. The case reported was in connection with a medico-legal investigation. Radiographic examination, the giant electro-magnet of Haab and the galvanometric examination were negative. The conclusions of the investigators were: 1. A small metallic particle is fixed in the crystalline lens or in the vitreous in close proximity. 2. The cataract may be extracted or allowed to remain in place. 3. Binocular vision is lost and the indemnity should be estimated at 30 per cent. Such a condition is prone to late complications, such as luxation and subluxation of the crystalline lens, sympathetic irritation, iridocylitis, glaucoma, etc. W. G. S., Jr.

THE STEREO-CAMPIMETER AND ITS USE; PRESENTATION OF A NEW INSTRUMENT FOR THE STUDY OF CENTRAL FIELD DEFECTS *

By R. I. Lloyd, M.D.,

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I HAVE no paper prepared but will point out a few features of this instrument. For a long time, we have been tied up with the perimeter as the instrument for all kinds of field measurements, and I think that a discussion of the physical construction of the retina and the pointing out of a few of its characteristics will suggest that there is room for other methods, because I think they are very much more efficient.

In the first place the retina, we might say, is divided into two parts for each eye; we carry a double eye around with us, if you wish to express it that way. The central portion is for detailed vision and color vision; the periphery, for the detection of motion and vision in dim illumination. Although there is no sharp line of demarcation where the one begins and the other ends, the area of detailed vision is very limited—say about two or three degrees. When we examine by the test types, we merely demonstrate the condition of the macular area. The macular area may be in good shape, and the peripheral area may be much diseased; yet possibly no evidence of this may be obtained by that kind of test. On the contrary, the patient may have a central defect and his peripheral area may be in good condition; the peripheral outlines large and wide. I might have a patient with a vision of 6/200, and his peripheral vision as good as that of anyone not suffering from any defect. On the other hand, he may have normal vision and yet have his field down to within ten degrees of the point of fixation.

On the arc of the average perimeter, the test-object usually travels two inches for ten degrees. The recording space allotted to that two inches is one-twelfth of that, or one-sixth of an inch; and it is impossible to record anything on so small a scale. A ten

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

degrees scotoma is a monster. It is impossible to record these small variations on the perimeter. The perimeter is inelastic. It does not permit of the approach of the test-object from any but one way—back and forth, but not from any angle. We have stuck to the perimeter for years, doing things with it; but we have overlooked many of its defects.

There is another method of testing the eye, and that is by binocular fixation. The human eye does not, of its own accord, remain fixed steadily on one place. If a person is asked to look at a page and the eye movement is recorded, it is found that the eye goes jumping all about, and does not remain fixed. Therefore, fixation is not so easy to attain as we think. Another factor is the phenomenon of Troxler. If one gazes at a series of cross lines steadily, one part will fade, and the other be brighter; and so the process goes on. The question of accuracy in prolonged examination is at once brought up.

Another proposition in these tests is the matter of illumination. The more I go into the matter, the more doubtful I am of the value of blue as a test object. Green is better. Then comes red, and white is the most steady of all. If you get binocular fixation, you get a steadiness that you cannot attain in any other way. Secondly, you must abbreviate the process and avoid the combat for supremacy of the impressions of one part of the field over those of the other. In order to abbreviate the process, one must be able to record on the surface of the chart the outline of the defect. We want to get steady fixation, avoid the peculiar phenomena of fatigue that I have spoken of, and also make the test as quickly as possible.

Then, again, there is the fact that most of the scotomas that we have to deal with are central—or paracentral. If one eye has a central defect you can use the other eye as a fixing agent, and examine the field of the poor eye. A monocular device does not hold the poor eye still. Here the stereoscope comes in, because each field may be examined independently.

Another point that should enter into the discussion is that any patient who has not a vision of 20/20 has a central scotoma. That may need modification; but a central scotoma is a central defect implying a punched out area in the central field. Our visual test is merely a test of the macular area. When the patient does not see 20/20, that means a central scotoma. A corneal lenticular or

vitreous haze, we know, does not come under this class; but we are not interested in this kind of work in diseases of these three parts of the eye. You may say, "Why outline a defect of the retina, when you can look into the ophthalmoscope and see just where it is?" There are some peculiar things about the retinal defects. A hemorrhage is very destructive to vision. A very small hemorrhage in the macular area will reduce the vision materially. A one-degree scotoma will reduce the patient's vision beyond the useful point—down to 20/200, as likely as not. You take albuminuric and diabetic retinitis. You look in, and see the macular area covered with spots. To all intents and purposes, they look alike, yet one is almost blind and the other sees quite well. If you take any of these methods that are reliable, you will find a scotoma in the poorer eye. The lesion that produced the scotoma is in the deeper layers. You take edema of the retina coming in cases of diabetes, and you look in and find the retina clouded up. Vision will fade promptly almost to zero. The changes in senility affect vision seriously.

A man came complaining of the vision of his left eye. Both eyes looked the same. Vision in one eye was practically normal, with a little bit of a feather of pigment off to one side of the macula. In the other, there was reduction away down. We found a good-sized central scotoma. The picture was that of senile macular disease, but the visible lesion is not the one which destroys vision. You take cases of injury, traumatism of the macula, and if the macular area is affected, the change may be so slight, that you are in doubt whether the patient has a scotoma or not. Indeed, in medico-legal cases, we are apt to think that the patient is malingering; but this may not be the case. I would ask you to examine such patients on several occasions, on different days, and check up the scotoma. You can have a scotoma that renders the vision very poor, with very, very little change in the ophthalmoscopic picture.

When you come to the chiasm, the optic tracts and the hemianopsias, these methods are of great value, because we have no visible evidence, and *must* depend on this kind of testing to outline the scotoma. I might point out the way to use this machine to make it clear. It has on each side a 2° central square with a circle enclosed and a small one inside the first circle. These are decentered,

so that when the patient fuses the images of the two sides, these two squares will appear to be on the same level as the rest of the chart. This circle recedes from the level of the recording chart, and the smallest circle is still farther off so the patient is looking down through a tube apparently. There is a psychic invitation to look into infinity.

At the distance this recording chart is from the lens, three millimeters is equivalent to one degree. There are various corrections for hyperphoria, etc. The pupillary distance on each side may be adjusted. Here is a place to slip in prisms, base in or base out; and here are strips to be placed across, so that you can use it as a fusion trainer, employing the card of Dr. Wells. It is adjustable for height, and the illumination is best by the "Standard Daylight Lamp." You can use a half-degree white test-object anywhere over the chart. The color field for a half-degree test-object is ten degrees for red, and eight degrees for green. So if you are going to use color testing out here for your blind spot, it is well to use a three millimeter test-object for all colors except white. I have been testing with blue, and do not know what to make of it. I feel that the observation made by Dr. Walker concerning the variation of the visual angle, by either reducing the size of the test-object or moving the perimeter away from the patient, is a very desirable method, and prefer to substitute the change of different sized test-objects for a change in color for most color work on the perimeter.

Holmes and Lister, of the British Army, found that the color functions were really subsidiaries of perception of white; so, in place of testing for colors on the perimeter you can take a five millimeter test-object, then a two-and-a-half millimeter test-object, and then a one-and-a-quarter and so on down; and if there be any loss of field for green it will be indicated by the undue contraction of field for small white test-object. Some color testing is desirable, particularly for the blind spots.

This instrument can also be used for measuring the deviation of the eye in strabismus, whether it be in or out. We have been in the habit of using the perimeter to test the eye for strabismus, and I think that everyone here who has operated on crossed eyes has had some experience like this: He measured the patient on the perimeter and found the eye deviating 30 degrees in one case, and

in another case about the same, but one operation cured one case and not the other.

Why is this? We assume that the optic axis is the same as the visual; but this is not so; the angle gamma varies in both directions, and the extremes may be as much as thirty-five degrees apart. This error does not creep into the stereoscopic measurement.

This scheme is not applicable for small children. You must have some patience to work with it, and the patient some intelligence; but given these you locate the blind spot from visible to invisible, and *vice versa,* with the patient fixing with the good eye. Record the blind spots and then cover the good eye, the patient fixing with the poor eye. Record the blind spot of the poor eye now in its new location, and the distance between blind spot records is the amount of deviation.

These results will not run like the perimeter at all. I had a case that I had measured with the perimeter and found 35 degrees and was quite pleased to get a full correction from one operation. I wondered how I had got so much from one operation. Then I began to do this sort of thing, and found afterwards these other cases that looked to be 30 degrees on the perimeter, but might be 15 degrees, or even 12 on the campimeter slate. That was why I was getting results in some cases and not in others. If you have this type of case, take the record and find where the blind spot is, first with good eye fixing, and then with the other eye fixing.

Or you can use your small red object (half a degree) and outline the field just as you did the blind spots.

I think the stenographer will welcome the relief, "When silence, like a poultice, comes to heal the blows of sound."

Discussion

H. D. Schenck, Brooklyn, N. Y.: The writer was asked to discuss Dr. Bissell's paper upon perimetry in which he described a new instrument for accurately using Bjemem screens and the need of an adjustable stereoscope with wide angle for the better use of Haitz's cards, presented before this Society in Baltimore in 1916. I well remember that I had not used these charts and, although I read the papers of Walker and Cushing upon the uses

of Haitz charts in many brain conditions, the lack of a practical knowledge of their use prevented me from giving a very comprehensive or practical review of their use in scotomas and in outlining the blind spot. All these methods required very accurate attention on the part of the patient, and the tediousness of the position is very apt to make many of the patients nervous and the work inaccurate. The general feature of Dr. Lloyd's campimeter slate, which I have been using the past year, makes me feel that this slate and the stereoscope with which it is used have great advantages for accurate work in finding causes for loss of vision in the central area. Many obscure central scotomas will be found to account for anisometropia in a healthy appearing eye so far as ordinary tests and the opthalmoscope show. It is more stable as it rests on a table, and the position can be made comfortable in the best position for accurate observation by the patient.

It used to be thought that in many cases uncorrectible defects were probably due to irregularities in the lens causing irregular astigmia which could not be corrected. The use of the campimeter slate has demonstrated that this is probably a false assumption, and that they are due to defects in the macular region in most cases. Before the campimeter slate came out, I had a patient who gradually over a period of years lost her vision; I felt reasonably certain this was due to trouble in the macular region which I could not demonstrate with the perimeter or with the ophthalmoscope.

Miss S., age 62, when first seen in 1905, had a healthy pair of eyes at that time, but with a moderately large amount of hyperopia and a moderate amount of hyperopic astigmia in each eye; with this correction, her vision was about 6/4 in each eye. This condition was unchanged until 1913, when she began to complain of indistinct vision in the right eye with fatigue, lachrymation, and itching. The refraction at that time, even after a very prolonged use of 1 per cent. atropin showed a considerable loss of vision in the right eye without glasses, and *myopia* and *myopic astigmia.* In 1914 the adductors were trained to increase the adduction from 12 degrees with from 9/21 degrees of exophoria at different tests with her glasses to 45 degrees. The training was done by the use of prisms and Wells' Charts. The eyes were comfortable for eight months, when she began to have trouble, with loss of vision, increased myopia, but this correction failed to make the right vision

normal. On account of the development of a hyperphoria of 3 degrees, prisms were made, a part of her refractive test in 1916, but the best vision with glasses she had at this time was 6/9, and in 1917, the right vision could not be made better than 6/12. The campimeter charts at that time showed a large scotoma for red with targets of 3 mm. The vision at this time had decreased to 6/30 in the right eye and the left had become myopic for the first time. There had been little change in the eyes since 1918. Without some form of campimeter, such a case as this could not be diagnosed. Several other cases have shown an enlargement of the blind spot which the campimeter slate made it possible to speedily outline. I think the instrument is a valuable addition to our equipment.

G. De Wayne Hallett, New York City: My experience with the campimeter slate has necessarily been rather limited, but has impressed me most favorably in the determination of scotomata. The arrangement of the gray lines on the separate figures permits a ready realization of the patient's fusion, even in the presence of a monocular central scotoma—a most valuable consideration, quite lacking on the perimeter. Having secured fusion, and with the small colored objects and the slate well illuminated, the effect of very small central scotomata can be nicely appreciated. The campimeter is not expected to replace the perimeter in outlining the peripheral fields of vision.

W. D. Rowland, Boston, Mass.: I should like to ask a couple of questions of Dr. Lloyd. In the first place, is the patient's correction always distant and is it essential in the use of this instrument? Secondly, what is his interpretation of an inversion or interlacing of the color fields? I mean those accurately taken; because if you work without the stereoscopic instrument, you get an interlacing of color fields, which is not an indication of the true vision. Thirdly, what is the meaning of *faults* in the blue fields? Is the explanation in choroidal changes or retinal changes? That is against the faults in red and green. The latter, you usually find in central fiber changes, and blue means that there are chorodial changes.

Dr. Lloyd, closing: In the first place, the patient should always wear distant correction. Any stereoscopic work is as if the patient were gazing at infinity. Some have made this mistake. They think that if the patient is presbyopic he should have correction as for the near point. That is a mistake. Such patients should

have correction for distance. But adjustment for distant correction can be made, by bringing the chart closer to the eye for myopia or further off for far sight. The only thing to be noted is that it alters the value of the registering lines and value of the degrees as laid out on the chart.

These degrees are accurate, and represent one-quarter of a millimeter on the actual retina, when they are at a distance of 190 mm. from the lenses.

The interlacing color fields I am not familiar with, either on the perimeter or on this instrument, except pathologically. I remember to have seen them in several cases of pituitary disease. Do you mean normal cases?

Dr. Rowland: Pathological.

Dr. Lloyd: There was a time when color interlacing was valued quite highly as a diagnostic sign in brain tumor cases, but I think it has lost its former repute. I do not think that there is any doubt that blue is affected first in choroiditis, in contradistinction to green and red, for nerve-fiber disease. That is a well-established fact. In speaking of blue, I meant this close-up campimetry. I have been experimenting, but am not ready to express my humble opinion. I have answered as well as I can, but I do not think that the last question can be answered yet. You want to be sure that your red is the pure saturated red. Have experimented on some patients and on myself; and have found that it makes a difference of about five degrees on the perimeter whether you have a good red or not.

This campimeter slate has a great value in glaucoma, in this respect. We are prone to believe that if our patient has a good-sized field in glaucoma, we are safe; and I want to point out what I think is the most advantageous thing about this instrument. If you can demonstrate one of these little fingers of menace, so to speak—one of these little processes reaching out from the blind spot to blur the fixing area—that is the time, if your drops are not doing the trick, to operate. It does not make any difference how large a field you have; if the scotoma progresses in spite of the drops you must get the tension down, if it is possible; by mild measures if possible; by operation if necessary.

You are familiar with Roenne's nasal step, the triangular cut-out found with the perimeter. That is also dangerous. It is reach-

ing for this fixing area in the same way. I have a patient at home on whom I recently operated; the field is pretty good but there is a nasal step. I have another patient who will not consent to operation, who has a field with the loss of all above the horizontal meridian. In amblyopia-exanopsia it is easy to prove the field of vision in adults is contracted, and for the bad eye particularly. I do not know whether it is a *"post hoc"* or a *"propter hoc."* The use of something of this kind in traumatic cases is very necessary. Attorneys will say that any test that is not objective is of no use; but you can do this test today, tomorrow and the next day, and the results will agree that there is or is not a scotoma. You will be surprised how small a central scotoma will alter the vision. It does not have to be absolute. It may be relative. One of the methods is to take two of these test-objects of the various colors, one before each eye if you wish, and turn first one and then the other, so that the patient does not know which one you are working with. The patient will be hard put to it to follow you up; and you can tell whether there is a small scotoma of one eye, or whether it is absolute or relative. Be sure that you have not a patient with dyschromatopsia before you begin. I had a patient who seemed to have a large color scotoma, but found that he was not able to see red. There comes a card with Dr. Wells' cards, which you can set on the chart and if you do not care to examine the muscles first, ascertain readily what adjustment you must make for muscular deviation.

An Advertisement from a Siamese Newspaper.—"The news of English we tell the latest. Writ in perfectly style and most earliest. Do a murder get commit, we hear and tell of it. Do a mighty chieftan die, we publish it and in borders of somber. Staff has each one been college and writ like the Kipling and the Dickens. We circulate every town and extortionate not for advertisements. Buy it."—*Literary Digest,* from *The Pioneer* (India).

MYOPIA*

J. W. Stitzel, M.D.,

Hollidaysburg, Pa.

I HAVE been prompted to write on this subject on account of the many cases of myopia I come in contact with in the ordinary routine of daily practice who have first been to the optician. It is surprising how many cases one sees that have first gone to see the optician, or the optometrist, as they now call themselves. In fact, it is not uncommon in my experience to see cases that have progressed gradually for years under their care, who finally consult an oculist only after marked choroido-retinal changes have taken place and much permanent damage done that could have been avoided under proper care. Our medical laws have been passed for the purpose of protecting the public, and yet one of the most important organs in the human body--the eye—is left very often to the care of some one who has a very meagre knowledge of the anatomy and physiology, let alone the pathology of that organ.

While our recent laws compelling the optometrist to take an examination and register before he can legally practice the fitting of glasses, have caused the disappearance of the itinerant spectacle vender, who plied his trade upon the unsuspecting public, yet, on the other hand, they allow the registered optometrist to call himself doctor and pose as an eye-specialist in the community.

Now this is not true alone in the rural sections of our country, but it is also applicable to conditions in our cities. I find a certain percentage of our people think because a man fits glasses alone he, of course, knows more about refraction work than an oculist; or, because many of them call themselves doctor, many people who do not know the difference between an optometrist and an oculist go to them who would otherwise go to the oculist. In other words, it is largely a question of education under our present laws, and of who is going to do the educating.

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*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

I have made these statements by way of introduction to my paper because I know you will agree with me when I say a myopic eye is always a diseased eye, and should, therefore, always be under the care of an oculist from the beginning, and never under the care of the optometrist. This is a class of cases the optometrist should never be allowed to treat, and our medical laws should be so amended that these cases should be treated by the oculist, who knows how to treat disease, as the general practitioner, or physician, who is licensed to treat the human body as a whole.

Myopia is essentially a condition of civilization and is, therefore, more prevalent among the better class. The exception, of course, is found among the lower classes in certain industries requiring close application, as in the various clothing and shoe-making industries throughout the country. Nationality plays a part in the production of myopia, Germany being known as a country of many myopes. This, doubtless, has been due to the lack of proper correction of hypermetropia, and hypermetropic astigmatism before myopia became a national defect, as proven by the fact that under scientific investigation and proper sanitary regulation, myopia is decreasing.

Another argument for the early recognition of all errors of refraction. High degrees of myopia were much more prevalent in this country thirty-five or forty years ago than at present, doubtless due to the fact that even minor degrees of hypermetropia and astigmatism have been corrected before they have passed into a myopic state.

On the other hand, myopia is practically unknown among the less civilized nations of the world. Some authorities assert it is not known among the peasant classes of Europe and has only developed in the negroes since the days of slavery. Myopia is frequently hereditary, occurring in children of myopic parents. It seems to be dependent more upon the maternal than the paternal ancestry. Of course, if both parents are myopic, the tendency to myopia is greater. Myopia occurring very early in life is not always hereditary, as shown by two cases I saw a few years ago in one family—a boy of four years with a myopia of nine diopters, and a girl of five years with a myopia of ten diopters, both parents being emmetropic. I recently saw a boy of three years with a myopia of ten diopters, both of whose parents have perfectly normal vision.

Myopia sometimes develops in eyes formerly hypermetropic, more especially where the hyperopia is combined with astigmatism and the proper lenses have not been prescribed, thus necessitating over-use of the accommodation for near work. In looking over my records I find numerous cases of patients becoming myopic, who from the history doubtless have previously been hyperopic. I am not referring to cases so frequently seen by the oculist where a weak minus lens has been prescribed by the optician and under a mydriatic the case proves to be one of hyperopia, as in the case of spasm of accommodation. The effect of minus lenses thus prescribed upon the accommodation is obvious, and is another argument against the prescription of glasses by the optician for the myope.

It is a common fallacy among the laity that a person is necessarily near-sighted, as they say, because he or she holds objects closer to the eyes than is normal in order to see; but, as you well know, and as I frequently say to patients, they may be very far-sighted. All of you have frequently seen cases of high degrees of hyperopia, especially where vision is below normal, even with the proper correction, who hold objects close to the eyes to see. It is a wonder that more of these cases do not finally become myopic, when they have not been properly fitted with glasses to relieve the strain of near work. While many of these cases have been fitted with glasses by the optician, only a very small percentage of the total hyperopia has been corrected in most cases. I do not believe any case under thirty-five years, at least, can be properly fitted with glasses, no matter what kind of error of refraction, without a cyclopegic. This is certainly true in every case under thirty-five years seen for the first time by the oculist where a previous record has not been taken by him, and certainly no case of myopia should be so fitted, if under forty years, without a cyclopegic. Otherwise the test is pure guess-work as to the amount of error of refraction in all cases.

The development of myopia in the aged who have previously been hyperopic is usually the result of swelling of the lens, as in incipient cataract. On the other hand, do not forget that the development of myopia after the fortieth year, or the presbyopic age, unassociated with cataract, should lead to an examination of the urine for sugar.

It is generally conceded that myopia is an acquired condition, rarely, if ever, being congenital; children being first hyperopic, and later the eye by its natural development becoming emmetropic.

The sclera does not yield to intraocular pressure unless its resisting powers have been reduced in some way. It gives way either through prolonged tension, as caused by the size and shape of the orbit, and the consequent compression of the eyeball by the extraocular muscles pulling backward and pressing upon the back of the eyeball—due to the close range at which myopes are compelled to work, or through some abnormality in the size and shape of the orbit, or some disease of the coats of the eyeball itself; in other words, some inflammatory change within the eyeball induced either by excessive use of the eye for near work, bad ocular hygiene, poor light, and doubtless in some cases an inherited tendency. All of which tends, if not corrected promptly, to produce local vascular congestion, leading to a weakness of the various coats of the eye and elongation of the eyeball.

If we reason from the standpoint that all eyes are congenitally hyperopic, myopia must necessarily be acquired and necessarily progressive in consequence in all cases; which makes it all the more imperative from the standpoint of preventive medicine that we discover and remove the cause as early as possible, and not simply fit patients with glasses and dismiss them without any effort to discover the cause and remove it. Many of these cases are simply fitted with glasses by the optician and permitted to return to the strain of near work and bad hygienic surroundings; the myopia progressing until the eyeball becomes elongated by stretching, causing the retina to give way, thus bringing about permanent changes in the retina, with consequent permanent loss of vision.

I do not intend to go into a detailed discussion of the various theories of myopia, as, for instance, the anatomical theory, where the eyeball is supposed to elongate by reason of the size and shape of the orbit; the mechanical theory, where the length of the eyeball is influenced by the compression of the extraocular muscles upon the eyeball in the excessive convergence at near work; or the inflammatory theory, where the cause is believed to be due to a low-grade inflammation of the various coats of the eye posteriorly, especially about the posterior pole of the eye, of which macular choroiditis is an example. Most cases are doubtless due to one or more

of the causes just mentioned, but it is the duty of the oculist to find the cause and eliminate it in each case. From a clinical standpoint we have the static, or true myopia, the ordinary kind where the axis of the eyeball is elongated. This variety is the one most frequently met with, and is usually found in childhood, or early adult life.

Many of these cases are overlooked in their incipiency, but thanks to our laws compelling medical inspection of the pupils in our public schools most of these cases are discovered at least within a year of their onset. This is fortunate, for as you well know simple myopia uncomplicated with astigmatism rarely gives rise to reflex symptoms, as headache, etc., so frequently found in other errors of refraction. We also have the so-called functional myopia, as found in spasm of the ciliary muscle, where without a mydriatic the optician fits patients with minus lenses, thus making them worse, but again demonstrating the value of a cyclopegic.

The diagnosis of myopia is easy in the hands of a skilled oculist, and is always certain under cyclopegia. One glance with a retinoscope will demonstrate the direction of the movement of the shadow in the opposite direction to the movement of the observer. The observer can tell at a glance whether the case is one of myopia, or a high degree of hyperopia. The treatment of these cases should be preventive as much as possible. I want to emphasize the importance of early recognition of myopia and the removal of the cause when found.

Of course, the fitting of glasses under a cyclopegic is imperative in all cases. Atropin is to be preferred as a cyclopegic in childhood, or early adult life, especially when the case is seen for the first time or gives evidence of rather rapid progression. I use the correction as found under a mydriatic in all cases where the patient is under forty-five years. In cases over that age, I rarely use a mydriatic. If the patient is still of school age and has a myopia of less than four or five diopters, I prescribe the glasses as found under the mydriatic for constant use, unless the patient shows evidence of fatigue. If more than four or five diopters, I usually prescribe from one to three diopters less for near work, especially if the patient is using the eyes very much for near work, as in certain occupations—clerical work, stenography, etc. Many cases with a higher degree of myopia whose occupation does not require

much near work get along very well without any diminution for near work. This is especially true where visual acuity with proper lenses for distance is good. In all cases, particularly in high degrees of myopia, great care should be taken that the lenses are placed in the proper position before the eyes. Pupillary distance should be accurately taken and lenses should be placed as close to the eyes as the lashes will permit without touching, as the distance from the eye changes the focus of the lenses, they being stronger as they approach the eyeball. On the other hand, if the lenses are not properly centered a prismatic effect is produced.

While the fitting of glasses is imperative in all cases of myopia, we should not forget if the case is due to over-work of the eyes at near work, near work should be prohibited and the eyes given absolute rest, preferably under a mydriatic, if the case shows a tendency to rapid progression.

Myopia in school children should be carefully watched and every effort made to discover the cause. Fortunately, the erection of all new school buildings is supervised and the plans must be submitted to the State Board of Education in many States. Thus provision is made for the proper lighting of the school rooms. Unfortunately this does not affect school buildings already erected.

Of equal importance with proper lighting is the position of the desks in our schools. Many children are forced to sit bent over in desks that are either too large or too small, thus necessitating the use of the eyes at too near work. This is particularly true of the rural districts.

If the general health is at fault it should be looked into and the child taken away from its studies and compelled to spend much time in the open air with the proper lenses. Most cases if seen early can easily be controlled by proper attention directed to the discovery and removal of the cause, but, unfortunately, a few cases progress in spite of the best efforts of the oculist; the tunics of the eyeball becoming thinner and thinner, the choroid and retina giving way more and more until large opaque patches develop in the retina, and the retina even becoming detached in some cases. I have seen this occur twice in high degrees of myopia in children when the proper care was not taken. In a few instances, no doubt, the case progresses in spite of everything that can be done, but in

my experience these are very few if seen early enough and proper treatment be directed to the case and the cause removed.

In recent years the removal of the lens has again come into vogue, it having been discarded for some time after its first use, as early as 1776. It has been used with varying success by some operators in cases of high degrees of myopia. Most authorities agree that the removal of the lens in cases of fifteen, or sixteen diopters of myopia leaves the eye practically emmetropic; others claim twenty diopters is necessary. Some authorities cite cases of even higher degrees of myopia which became practically emmetropic after the removal of the lens. These apparent variations are doubtless due to the position of the correcting lenses before the cornea in refracting these cases of high degrees of myopia, each additional millimeter making a marked difference in the refractive power of the strong minus lenses used.

It must be remembered that the operation, whether a discission alone, or a discission followed by a linear extraction, has its attendant dangers, as the risk of infection, the development of glaucoma and even the detachment of the retina.

The final results in these cases, as published, vary according to different authorities from 100 per cent. to 75 per cent. Many authorities claim that myopes of fifteen or twenty diopters do not wear the lenses comfortably. This is not always true as shown by a case I reported at our meeting at Asbury Park, where a patient wore a lens of twenty diopters in the right eye, with a vision of 20/30, and a minus lens of twenty-five diopters in the left eye, with a vision of 20/40, without any discomfort.

In closing, I want to make a plea for the early recognition, proper correction under a mydriatic, and the removal of the cause in all these cases. I also want to emphasize the necessity for the amendment of our medical laws, so that the optometrist will not be permitted to prescribe for these cases.

Discussion

G. A. Shepard, New York City: It gives me pleasure to endorse all that the author of the paper says regarding the danger of allowing optometrists to handle eyes suffering from myopia, whether true or spasmodic. To arrive at a careful judgment of

the proper treatment requires a marshalling of all the powers of the trained physician and oculist. Even the oculist may err. Last year I saw a boy of fourteen who had 5. of myopia. He had been under the care of a man who claims to cure all cases of poor vision, due to refractive errors, without glasses. The boy was suffering a severe handicap owing to poor vision, and he and his parents were obsessed with the idea that he did not need glasses.

Although a cyclopegic should be used in all cases of low degree of myopia, I am unwilling to concede that it is not possible to fit many cases without such procedure. I have tested many cases of myopia under a cyclopegic and found the two tests identical. A myopia of over three diopters has no use for a ciliary muscle either for distant or near work, and if there is no weakness of convergence, I can find no reason for any spasm. To say that such a test without a cyclopegic is mere guess-work is, I think, unwise.

Owing to the fact that the ciliary muscle of myopia is underdeveloped, we should not make a hard and fast rule to "use the correction as found under forty-five." Where a full correction is worn the accommodation is called into use for all distances within fifteen or twenty feet, which comprises about 90 per cent. of our visual activities. The ciliary muscle is not capable of carrying on this unaccustomed work and asthenopia symptoms will result.

The phorometer is of great aid in showing what portion of the myopia can be borne without discomfort. In children the ciliary muscle can be developed by gradually increasing the strength of the glass until a full correction can be worn.

J. W. Stitzel: The main point was to bring out the fact that while the laws are supposed to protect the public, they do not do so in these cases; and you see high degrees of myopia. Almost all such cases should be under the care of an oculist, and not an optometrist.

William M. Phillips, Cleveland, Ohio: I appreciate very much what Dr. Stitzel says. If it is necessary to report a case of chicken-pox, a case of myopia should be reported to the board of health. That is the way to control these cases.

CONSTITUTION AND BY-LAWS OF THE HOMŒOPATHIC OPHTHALMOLOGICAL, OTOLOGICAL AND LARYNGOLOGICAL SOCIETY

CONSTITUTION

Article I—Name and Object

This Association shall be styled the American Homoeopathic Ophthalmological, Otological and Laryngological Society, and its object the study of the eye, ear, nose and throat, with particular reference to homœopathic therapeutics.

Article II—Members

The Society shall be composed of those physicians who are already members, and of such others as may be hereafter chosen in conformity with the by-laws.

Article III—Quorum

At any meeting of the Society eleven members shall constitute a quorum.

Article IV—Officers

Article IV amended by inserting after the word treasurer the words, "and a necrologist," making Article IV read:

"The officers of the society shall be a president, two vice-presidents, a secretary, a treasurer, and a necrologist, who shall also constitute an executive committee of the society, and there shall also be elected a board of five censors."

Article V.—Amendments

This Constitution may be altered or amended by a vote of two-thirds of all the members present at a regular annual meeting, provided that notices of such alteration or amendment shall have been given in writing at a previous annual meeting of the society.

BY-LAWS

Article I.—Meetings

This society shall hold at least one session in each year, at such time and place as may be determined upon.

Article II.—Election of Officers

Section 1.—The officers shall be elected by ballot at each

annual meeting of the society, and shall enter upon their respective duties immediately after the close of the annual session.

Sec. 2.—The regularly chosen officers of this society shall constitute an executive committee, which shall arrange the business of the session, act as a committee on publication, attend to matters of business not otherwise specially provided for, and perform such other duties as may, by vote of the society, devolve upon them.

Article III.—Duties of Officers

Section 1.—The president shall preside at the meeting of the society, and perform such duties as may, by vote of the society, be devolved upon him. He shall deliver an address at the opening of each annual session, upon such subject as he may select.

Sec. 2.—The vice-presidents in their order shall perform the duties of the president in his absence or disability.

Sec. 3.—The secretary shall keep a record of the proceedings of the meetings, conduct the correspondence of the society, issue notice of meetings, and notify members of their election.

Sec. 4.—The treasurer shall receive all money belonging to the society, shall make all disbursements under the recommendation of the president, and shall furnish at each annual meeting a written report of the condition of the finances.

Article IV.—Censors

There shall be a board of censors, consisting of five members who shall receive and examine the credentials of candidates for membership, and report to the society for election such as may be found properly qualified. The members of said board shall be elected by ballot at each annual session to serve for one year from the first day of January next succeeding said election.

Article V.—Membership

Amended July 2, 1914:

Section 1.—Any reputable physician may be elected to membership in this society who shall have fulfilled one of the following requirements or other qualifications judged by the Board of Censors to be an equivalent:

(a) Not less than one year of service subsequent to graduation as an interne in a reputable hospital or infirmary devoted to the treatment of diseases of the eye, ear, nose or throat.

(b) Not less than six months of post-graduate study in these specialties in a reputable teaching institution.

(c) Not less than one year of association in private practice with a reputable practitioner of these specialties. The candidate shall have the endorsement of two reputable physicians from the locality in which he resides.

(d) Not less than three years of independent practice in one or more of these specialties, and the submission of a report of fifty consecutive medical or surgical cases which shall include histories, treatment and final results. These reports are to be subject to the approval of the Board of Censors.

(e) Evidence of original investigation of a worthy character upon a subject related to these specialties. This material is to be presented in a form suitable for publication by the Society in its transactions.

(f) In addition to one of the above each candidate shall be required to submit a paper on some subject relating to his specialty to the Board of Censors and, if accepted by the Board, shall be read before the Society by the candidate at the next meeting.

By an amendment passed on June 18, 1918, this clause was eliminated by the following resolution:

Amended June 18, 1918—

"*Resolved,* That the Society hereby amend the By-Laws by the elimination of the clause (f) which requires the presentation of a thesis as a requisite in the application for membership."

SEC. 2.—The admission fee of each member of the Society shall be two dollars.

SEC. 3.—The following resolution was adopted June 18, 1919:

"*Resolved,* That the annual dues of members of this Society be increased from three to five dollars, which shall include a subscription to the JOURNAL."

Amended June 22, 1921.

"*Resolved,* That a copy of each issue of '*The Journal of Ophthalmology, Otology and Laryngology*' shall be sent to each member of the American Homœopathic Ophthalmological, Otological and Laryngological Society and that each member shall pay of his annual dues of $5.00, $3.00 as a year's subscription to '*The Journal of Ophthalmology, Otology and Laryngology.*'"

SEC. 4.—The election of no member shall be considered com-

pleted until he shall have paid his admission fee and annual dues; and his membership can only be continued by the annual payment of these dues. Until his dues are paid he may not participate in the active work of the society. He may at any time within three years, however, complete his membership by paying his dues for the current year, together with any back dues that may have accrued against him.

Sec. 5.—Members neglecting the payment of dues for three years, after proper notification from the treasurer, shall be liable to have their names dropped from the roll of membership. Any person thus dropped shall have the privilege of reinstatement by paying all arrearages, on recommendation of the Board of Censors.

Sec. 6.—Any physician of eminent attainments in the special fields of medicine with which this society is concerned, may be elected an Honorary Member on recommendation of the Board of Censors at any annual meeting of the society, and shall be exempt from dues and shall have all the privileges of members, except voting and eligibility to office.

Sec. 7.—Any foreign physician may be elected a Corresponding Member of the society at any annual meeting, on recommendation of the Board of Censors, and shall have all the privileges of members, except voting and eligibility to office.

Article VI.—Rules of Order

Section 1.—The rules governing the deliberation of this society shall be those found in Roberts' Rules of Order.

Sec. 2.—No report or paper shall be received by the society in an incomplete or unfinished condition, and the title of any proposed paper shall be forwarded to the president by January 1st of each year and the completed paper by April 1st: the author shall also furnish with the paper, an abstract of not more than 300 words, to be published in the official Journal before the annual meeting.

Sec. 3.—The time allowed for the presentation of any paper shall be twenty minutes. The leading discussion shall not exceed ten minutes, and all other discussion five minutes for each speaker.

Article VII.

These By-Laws may be altered or amended by a vote of two-thirds of the members present at the annual meeting.

Standing Resolutions

Adopted June 19, 1899:

"*Resolved,* That the Committee on the Nomination of Officers shall consist of all the ex-presidents of the society present at any meeting; provided that in any case less than three be present the president shall appoint from the members present a number sufficient to make the committee consist of three members."

Adopted June 16, 1900:

"*Resolved,* That all papers presented before this society shall become its property and be first published in its official organ, and, furthermore, be it

"*Resolved,* That the Homœopathic Eye, Ear and Throat Journal be continued as the official organ of the society."

Adopted June 19, 1900:

"*Resolved,* That the president be requested to appoint at each annual meeting a committee of three members on transportation, who shall act, as far as possible, conjointly with the same committee of the Institute."

Amended June 27, 1905:

"*Resolved,* Any five members in good standing may propose in writing to the Nominating Committee nominations for any or all of the offices. All such nominations must be made on the first day of the session. The committee shall report all such nominations, together with any that it may see fit to add. The candidates shall be voted for by ballot in accordance with Article II, Section 1, of the Constitution."

Adopted July 1, 1910. For one year:

"*Resolved,* That the present arrangement with the Homœopathic Eye, Ear and Throat Journal as our official organ be continued, the publishers agreeing to send the journal to non-subscribing members as many as five times a year, at the discretion of the officers and at an expense not exceeding twenty-five dollars per annum."

Adopted June 27, 1911:

"*Resolved,* That, owing to the change in name of the official organ of this Society, the standing resolutions be amended so that wherever the words *Homœopathic Eye, Ear and Throat Journal* occur, the words *Journal of Ophthalmology, Otology and Laryngology* be substituted."

Adopted June 28, 1911:

"*Resolved,* That the arrangement with the *Journal of Ophthalmology, Otology and Laryngology,* as adopted July 1, 1910, be continued."

Resolutions Adopted

Adopted June 18, 1918:

"*Resolved,* That the President-elect be authorized to appoint a chairman for each of the special departments of our Society, who, in conjunction with the officers of the Society, shall prepare a program for the next annual session."

On June 20, 1918, it was moved by Dr. George B. Rice, seconded by Dr. George Alexander, that the *Ophthalmology, Otology and Laryngology Journal* be presented to the *Journal of the American Institute.*

The following resolutions were adopted June 18, 1919:

First.—That beginning January 1, 1920, the publication of our transactions be discontinued as a part of the *Institute Journal* and that a separate journal be established as the Official Organ of this Society, to be issued quarterly under the same name as formerly, namely, *The Journal of Ophthalmology, Otology and Laryngology,* that the editorial and business management of this journal be continued under the direction and management of Dr. George W. Mackenzie with such assistants as he may elect.

Second.—That the annual dues of members of this Society be increased from three to five dollars, which shall include a subscription to the Journal.

Third.—That the subscription price to the Journal shall be Three Dollars per annum.

"When a true genius appeareth in the world you may know him by this infallible sign, that the dunces are all in confederacy against him."—*Swift.*

"Johnny," said his mother, "I see your little sister has the smaller apple. Did you give her her choice as I told you to do?"

"Yes'm," said Johnny, "I told her she could have the little one or none, an' she took the little one."

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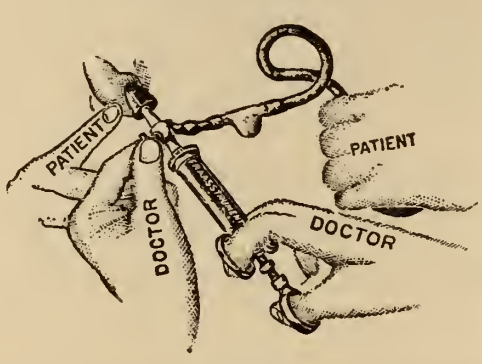

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Journal of Ophthalmology
Otology and Laryngology

Vol. XXV NOVEMBER, 1921 No. 11

Editorial

WHAT IT MAY MEAN TO BELONG TO A NATIONAL SOCIETY OF SPECIALISTS

AT the present time there are several national societies of eye, ear, nose and throat specialists, to wit: 1. The American Ophthalmological; 2. The American Laryngological; 3. The American Otological; 4. The American Laryngological, Rhinological, and Otological, often referred to as the Triological; 5. The American Academy of Ophthalmology and Oto-Laryngology; 6. The American Homœopathic Ophthalmological, Otological and Laryngological. All but the last mentioned society require the applicant (a) to hold a membership in the regular (Old School) County Society of the county in which he resides or practices; and (b) to have practiced his specialty for not less than three years.

The American College of Surgeons with about the same rating does not require of the applicant that he belong to the regular (Old School) County Society of A. M. A. approval, but does require that he show proof of having practiced his specialty for a definite period of years and other evidences of efficiency. Therefore, the American College of Surgeons is more democratic or less sectarian than the special societies referred to above.

A marked contrast to this state of affairs exists in the case of the A. M. A. section meetings. In the ear, nose and throat section, participation in the scientific program is not limited to those who can show evidence of efficiency as required by the College of Surgeons, but to those holding membership in the A. M. A., which is not required by the College of Surgeons.

The Homœopathic O., O. & L. Society, the oldest special society in the United States, does not require membership in any particular county, state or national society required by the other special societies and the A. M. A. section meetings, nor does it

require a minimum of three years' experience in the practice of an exclusive specialty to become a member and participate in the scientific program. The record of the O., O. & L. Society is the only proof the society has to offer as to the wisdom of the course.

Within the last five or six years in the drive being waged to raise the standard of ear, nose and throat specialists, a committee of three from the American Laryngological, Rhinological and Otological Society, three from the Academy of O., O. & L. and three from the Ear, Nose and Throat Section of the A. M. A. have been working strenuously to raise the standard of the specialty. Within a comparatively short time, before an applicant can be eligible to membership in the special societies he will need, (a) to hold a diploma from a recognized post-graduate school of medicine, or (b) a certificate granted by the National Board of Examiners selected by the above-mentioned committee. It will be only one step more to have legislation passed prohibiting one from removing adenoids and tonsils, or performing other operations on the nose, throat and ear that require special skill, unless the operator possesses a certificate of proficiency in the form of, (1) Membership in a recognized special society or a fellowship in the college of surgeons; (2) A certificate of proficiency granted by a national board of examiners; (3) A diploma granted by a recognized post-graduate school. What may or may not happen to the members of the O., O. & L. Society if such comes to pass cannot be foretold at this time.

The object of this editorial is merely to point out the importance of belonging to and retaining membership in at least one of the national societies of specialists.

NEW RULING ON DILUTIONS AND ALCOHOL

RECENTLY Boericke and Tafel sent the following interesting bit of information to the editor as well as to other physicians:

All homœopathic physicians can obtain permits to purchase dilutions and alcohol for use in prescribing. The permits cost nothing, blank applications for permits can be obtained from the prohibition director in the district in which you reside. When these are

properly filled out and returned to the prohibition director and approved by him they are returned to the sender. This permits you to purchase during the year fifteen gallons of alcohol and dilutions. When in need of dilutions or alcohol, "application blanks" must be procured from the prohibition director. The purchaser fills out *one form*—stating how many ounces of dilution or alcohol he wishes to purchase, and mails this back to the prohibition director. The prohibition director fills out five forms, one "vendor's," two "carrier's," one "vendee's" and one "director's." To the pharmacist the prohibition director sends one "vendor's" form and two "carrier's" forms. The "vendee" form is returned to the purchaser. He in turn must send it to the pharmacist, who may not ship the goods until he gets this form. On receipt of this "vendee" form the "vendor" ships the goods; he also sends to the purchaser one "carrier's" form and gives one to the carrier who is to deliver the goods. The carrier cannot deliver the goods unless the consignee can show him the duplicate carrier's form. This is the latest red tape surrounding the purchase of alcohol and dilutions by homœopathic physicians and we think it "a plenty."

Very truly yours,

Boericke & Tafel.

Yet the irresponsible "soak" can get all he wants.

G. W. M.

TO THE MEMBERS OF THE O., O. & L. SOCIETY

THE Secretary, Dr. Bentley, is anxious to compile a new and complete membership list of the Society at the earliest date possible. He has mailed every member a card that reads as follows:

> Kindly list me as specializing in diseases of the Eye, Ear, Nose and Throat.
> Name .....
> Street Address .....
> City and State .....

Not having had a response from every one, he has asked the editor to call attention to the matter so as to hurry up the replies.

Will every member communicate promptly with the Secretary, supplying him with the necessary data. In last month's issue appeared the Constitution and By-Laws with revisions up-to-date. As soon as the membership list is completed by Dr. Bentley it will be published in the Journal. Please help things along by filling out your card and mailing it to the Secretary, Dr. Neil Bentley, 1161 David Whitney Building, Detroit, Michigan. For the benefit of those in arrears they are advised to pay up promptly in order that their names may not be omitted from the list. G. W. M.

SOUTHERN HOMŒOPATHIC MEDICAL SOCIETY

It has been the custom for some years past for the Southern Society to turn over the eye, ear, nose and throat bureau to one of the members of the O., O. & L. Society. This year Dr. Dean W. Myers, of Ann Arbor, past president of our Society, has been selected to head the bureau, the wisdom of which is manifest to all who are acquainted with Dr. Myers and his ability.

The meeting will take place in Cincinnati, the home town of Dr. J. R. McCleary, the newly-elected president of our Society. For our own edification and the gratification of both these gentlemen, of whom we have every reason to feel proud, let us turn out in force and support them with a large attendance and excellent program. If you have not yet forwarded the title of the paper you expect to read to Dr. Myers, do so now and avoid confusion later. Don't forget the date, Nov. 17th. G. W. M.

CONCERNING THE McKESSON APPARATUS

There has come to our attention, through an item appearing in the *Toledo Daily Blade,* September 8, 1921, a decision of importance which we take pleasure in quoting:

"Federal Judge Westenhaver, of Cleveland, has dismissed a bill of complaint filed against Elmer I. McKesson and the Toledo Technical Appliance Company, of Minneapolis.

"The bill contested the patent rights of a surgical appliance for the proportioning of nitrous oxide and oxygen gases. The

case, heard in the federal court here during the absence of Judge Killits last May, was the outgrowth of years of litigation before the United States Patent Board in which attacks were made on the anaesthesia apparatus of the Toledo company.

"The plant of the Toledo Technical Appliance Company is the largest in the world devoted to the production of gas handling apparatus for dentists, physicians and surgeons. Judge Westenhaver's decision holds that the McKesson machines are of original design and not liable to infringement."

TWO NEW BOOKS

A Treatise on Cataract.—By Donald T. Atkinson, M.D. With Original Illustrations. Published by The Vail-Ballou Company, New York, 1921. Price, $3.00.

This book contains 150 pages, including preface and contents. It contains twenty-nine full-page illustrations appropriate to the subject. The author begins his treatise with a brief historical review of the subject of cataract, and then in their order considers the anatomy of the lens and the capsule, the classification of cataract, its etiology, and its treatment. He considers also the complications that may arise during or after operation. The author stresses the importance of careful surgical technique for each operation. The cuts are original and of exceptional clearness as to the points the author desires to make. Its very conciseness commends it most to the busy oculist. G. W. M.

Oculo-Refractive Cyclopedia and Dictionary. By Thomas G. Atkinson, M.D., B.Sc. Unabridged and Fully Illustrated. Published by The Professional Press, Inc., Chicago. Price, $5.00.

A handy reference book for the oculist. It is more up-to-date and complete than the average cyclopedia of larger dimensions, especially in the field of optics and ocular refraction. Ophthalmometry: Definition and description of it alone covers 25 pages; Ophthalmoscopy, 12 pages; Retinoscopy, 20 pages; Color Tests, 4 pages. The book is profusely illustrated. It contains 432 printed pages, including the author's foreword. G. W. M.

TRANSACTIONS OF THE AMERICAN HOMŒOPATHIC OPHTHALMOLOGICAL, OTOLOGICAL AND LARYNGOLOGICAL SOCIETY

THIRTY-FOURTH ANNUAL SESSION, NEW WILLARD HOTEL, WASHINGTON, D. C., JUNE 20, 21 AND 22, 1921

FIRST SESSION—MONDAY MORNING, JUNE 20, 1921

The meeting was called to order at 9.30, by the President, Dr. George W. Mackenzie, of Philadelphia, Pa.

The first order of business was the Adoption of the Program. Dr. G. B. Rice made a motion that it be adopted. The motion was seconded.

Dr. William M. Muncy, of Providence, R. I., the Treasurer of the Society, moved to amend the motion of Dr. Rice in regard to two papers, No. 20, on the program for Tuesday morning, by himself, and No. 43, by Dr. D. A. Williams, on the program for Wednesday morning, by having the places of these papers exchanged. He thought that the program would be improved. The amendment was accepted by Dr. Rice, and the amended motion carried.

The next order of business being the appointment of committees, Dr. Mackenzie appointed the following:

COMMITTEE ON ATTENDANCE—Dr. George J. Alexander, Philadelphia; Dr. G. E. G. Norton, New York; Dr. J. A. Ferree, Columbus, Ohio.

COMMITTEE ON NOMINATIONS—All the ex-presidents of the Society present at the meeting.

COMMITTEE ON PRESS—Dr. William R. King, Washington; Dr. Burton Haseltine, Chicago; Dr. J. R. McCleary, Cincinnati.

Under Reports of Officers, the next order of business, the President called for the report of the Secretary; and Dr. Neil Bentley, of Detroit, read the following report:

Members of the Homœopathic O., O. & L. Society:

I beg to make my third annual report as Secretary for the year 1920-1921.

Notices were sent out in January, announcing a special meeting of the Society to be held at Pittsburgh, February 6, 1921. The minutes of this meeting were subsequently printed in the JOURNAL.

Beginning in January, every issue of the Journal had notices regarding this annual meeting. A special letter appeared in the February issue.

In this note a request was made to every member to take some part in this year's program. The names of the Bureau Chairmen, with their addresses, were printed. Other letters were sent out in March and April. In addition a partial program was printed in the April issue. This was followed by a more complete program in the May issue. In the latter part of May the final completed program was mailed to Dr. Mackenzie to be printed in the June issue.

Owing to an unforeseen printers' strike in Philadelphia, the JOURNAL was held up. The printer's proof was received by the Secretary, June 10th. I wired that it was O. K. and asked them to rush delivery. The completed program is before you and all have received the copy of the program in the June issue of the JOURNAL in good time.

I wish to express my deep appreciation for the many suggestions and ever-ready counsel of Dr. Mackenzie. His promptness in replying is especially appreciated.

I wish to express my greatest appreciation to the several Bureau Chairmen for their splendid co-operation. They were invariably prompt in notifying me as to how their bureau was filling up—thus making it possible to get advance notices into the JOURNAL.

I think the program speaks for itself. It is one of the strongest we ever had. If it meets with the approval of the Society, I would suggest that a new membership list with possibly the constitution and by-laws be printed in some issue of the JOURNAL.

The following expense account is herewith submitted:

Sept. 1920, Stamps	$1.00
Sept. 24—500 Letterheads	9.50
Nov. 9—Howe Printing Co. (Virginia Meeting)	8.25
Jan. 17, 1921—250 Letters for Washington Meeting	3.00
Feb. 24—Stamps and one Registered Letter	10.13
May 13—Application Blanks	13.00

June 7—Telegram: Harper Printing Co.	.75
Telegram: Hubeney	.75
Programs	42.47
Stamps	10.00
Stenographer	20.00
Letterheads and Envelopes	6.00
June 14—Telegram: King	.76
June 15—Telegram: King	.76
June 16—Telegram: King	1.18
	$127.55

Respectfully submitted,

Neil Bentley, *Secretary.*

Dr. Muncy moved that the report be accepted and filed. The motion was seconded by Dr. George B. Rice, of Boston, and carried.

Dr. Muncy then read the Report of the Treasurer, which was as follows:

Treasurer's Report—1920-1921

Receipts

Balance on hand, June, 1920	$251.65	
Received from Dues	1,244.55	
		$1,496.20

Expenditures

Florence McGuire, Stenographer	$100.00	
L. B. Siemons, Use of Stereoscope	17.50	
Wm. M. Muncy, Expenses of Treasurer	17.00	
Cigars for Smoker	8.40	
Neil Bentley, Expenses of Secretary	159.74	
L. E. Hetrick, Expenses of Bureau Chairman	20.00	
Wm. McLean, Expenses of President	25.00	
Cadman Letter Writing Co., Multigraphing Letter	3.50	
University Press, Insurance on Books	7.00	
O., O. & L. Journal, Share of Dues	619.50	
		$977.64
Balance in R. I. Hospital Trust Co.		$518.56

(Signed) Wm. M. Muncy, *Treasurer.*

The report was accepted and referred to the Auditing Committee, consisting of Dr. Rice, Dr. McLean and Dr. Dowling.

Dr. Muncy then stated that he had waited until after the Auditing Committee had been appointed to make a further report, as follows:

Dr. Muncy: There is some difficulty in getting in back dues. There was a time, far back, when the condition of the Society was not so flourishing, and if we took strong measures to collect dues, we lost members. Now, by publishing the Journal and having a better attendance, we have got many delinquent members to pay their dues. They have been notified and we send them a registered letter and have a signed return postal card. The total amount is $605.00. We shall have to read the names, because the Society will want to take different action in different cases.

Dr. Muncy then read the list.

Dr. Mackenzie suggested that the Treasurer get in touch with the Auditing Committee in regard to the matter, and let that committee bring in recommendations concerning it at the time of making their report on the Treasurer's accounts.

The Report of the Necrologist was presented by Dr. Ella G. Hunt, of Cincinnati, as follows:

Report of Necrologist

We have lost three members during the year, all among the older men: Dr. Martin J. Kershaw, of Hematite, Mo., and formerly of St. Louis, died at the age of seventy-seven years. His office was in the Mermod-Jaccard Building; and Dr. James A. Campbell, who is in the same building at St. Louis, sent this slip about him.

The next deceased member is Dr. Malcolm B. McLean, of Chicago, who was born in 1881, and was graduated from Hahnemann College, Chicago, in 1908. He became Professor of Ophthalmology at the Illinois Post-Graduate School of Medicine, and died February 11, 1921.

The third is Dr. Charles H. Vilas, of Madison, Wisconsin, aged seventy-four years. He was still a member of the Society. He was also a member of the Institute of Homœopathy, and had been for years.

(Signed) Ella G. Hunt, *Necrologist.*

Dr. Bentley explained that Dr. Vilas was not a member at the time of his death, having resigned because he was not a specialist and was not in active practice.

Dr. Mackenzie then called for the Report of the Board of Censors. The chairman was not present, but Dr. George B. Rice, of Boston, one of the members of the Board of Censors, stated, for Dr. W. J. Blackburn, of Dayton, Ohio, the chairman, that all the names of applicants in the following list had been reported on favorably by the Board of Censors:

Jesse Franklin Boone, Chicago, Ill.; Thomas Vincent Connolly, Paterson, N. J.; James A. Fisher, Asbury Park, N. J.; Sherwin L. Haseltine, Elizabeth, N. J.; J. A. W. Hetrick, New York City; Albertos M. K. Maldeis, Camden, N. J.; William H. J. O'Brien, New Haven, Conn.; Chapman E. Strong, Astoria, L. I., N. Y.; *Helen F. Upham, Asbury Park, N. J.; Carden F. Warner, Washington, D. C.; Frances Gage Hulbert, Chicago, Ill.

Dr. Mackenzie said that these applicants had all paid their initiation fee.

Dr. McLean moved that they be accepted as members of the Society. The motion was seconded by Dr. Williams, and carried.

The next business being Reports of Committees, the Secretary stated that there were no standing committees to report.

Unfinished Business was the next item, and under this head Dr. Bentley called attention to the fact that two resignations had been referred to the Board of Censors, those of Dr. Elmer J. Bissell, of Rochester, N. Y., and Dr. Byron G. Clark, of New York City. Their dues had been paid up, and their resignation had been referred to the Board of Censors the previous year. Dr. Bentley then read the letter of resignation from Dr. Bissell, stating that he was resigning on account of retiring from practice and going to California to live.

Dr. Bentley then stated that he had received the resignation of Dr. Harold Wilson, of Detroit, Mich., which ought to be acted upon. All these resignations had been presented in proper form.

Dr. Rice moved that, in view of Dr. Bissell's long connection with the Society, and his services as a past president, he be made

* Dr. Upham's membership dates from June, 1920, she having become a member automatically by payment of dues after the meeting.

an honorary member, without dues. The motion was seconded by Dr. George A. Suffa, of Boston, and carried.

Dr. Muncy offered a motion to the effect that the matter of Dr. Clark's resignation be referred to the Board of Censors to decide. The motion was seconded by Dr. Rice and carried.

Dr. Muncy stated that Dr. Wilson had been a member for four years, and had paid his dues.

Dr. Rice said that Dr. Wilson had become a member when they organized at Detroit, in 1896.

Dr. King moved that Dr. Harold Wilson's resignation be accepted. The motion was seconded by Dr. McLean and carried.

Still under unfinished business, Dr. Bentley asked for information concerning Dr. Charles S. Grabin, of Spencer, Iowa, whose application had come in last year, but too late for action then. His application had been properly endorsed.

Dr. Muncy, in reply to a question from Dr. Mackenzie as to whether Dr. Grabin had sent his money with his application, said that last year there were a number on the list that had not paid and that he could not succeed in collecting their dues. They should not be considered as members.

Dr. Bentley said that Dr. Grabin was not in that class, as he had paid seven dollars initiation fee and was paid up. Dr. Bentley made a motion that the name of Dr. Charles S. Grabin be included among those elected in the report.

Dr. Muncy said that he had been elected, and that his name had been reported in the Journal.

There being no new business to come before the Society, the next item on the program was the reading of the President's Address. Dr. I. O. Denman, of Toledo, Ohio, made a motion that the order of papers be changed in such a way as to put the President's Address as the first order of business at the afternoon session.

The motion was seconded by Dr. King, who also suggested that it be not the first thing on the program that afternoon, but be presented when there was the best and most representative audience present. This amendment was accepted, and the amended motion carried.

The next order of business was the reading of the papers, or the scientific session.

The first paper presented was one entitled "Pemphigus of the

Conjunctiva; Report of a Case," by Dr. W. D. Rowland, of Boston, Mass.

Discussion by Dr. Wm. M. Muncy, Dr. G. E. G. Norton, Dr. C. E. Williams, Dr. J. A. Campbell; Dr. W. D. Rowland closing.

The next paper on the program, No. 2, was entitled, "Ocular Complications," by Dr. Henry L. Gowens, Jr., Philadelphia, Pa. Dr. Gowens not being present his paper was not presented.

The next paper, No. 3, was entitled, "Lateral Sinus Thrombosis, with Report of an Interesting Case," by Dr. George J. Alexander, of Philadelphia.

Dr. Alexander: I have changed the title to, "Thrombophlebitis of the Sigmoid Sinus, with Report of an Interesting Case."

Dr. Alexander read his paper. Discussion by Dr. W. H. Phillips: Dr. G. J. Alexander closing.

The next paper, No. 4 on the program, was one by Dr. I. O. Denman, of Toledo, Ohio, entitled, "Dressings and After-Care Following Intranasal Surgery." Discussion, Dr. J. Ivimey Dowling.

Dr. Burton Haseltine, of Chicago, announced that Dr. Frank Novak, of Chicago, was ill in the hospital, and could not be present to read his paper at the afternoon session; but he had sent his paper, and Prof. C. R. Griffith, who had made the investigation referred to in Dr. Novak's paper, in the Psychological Department of the University of Illinois, would be present and would speak in Dr. Novak's place.

Dr. William McLean, of New York City, then read paper No. 5 on the program, entitled, "A Modification of the Briggs Tendon-Tucking Operation. Discussion: Dr. G. DeWayne Hallett, Dr. G. E. G. Norton, Dr. Geo. A. Suffa; Dr. McLean closing.

Paper No. 6, entitled, "A Few Nose and Throat Problems," was not read because of the absence of its author, Dr. J. J. McDermott, of St. Joseph, Mich. The same was the case with No. 7, "Hemostasis in Tonsillectomy," by Dr. R. C. Eckardt, of Brooklyn, N. Y.

Adjourned at 12 M.

SECOND SESSION—Monday Afternoon, June 20, 1921

The meeting was called to order by Dr. Mackenzie at 2.15.

Paper No. 8, "Microtia, with Report of a Case," was not read owing to the absence of its author, Dr. E. S. Hallinger, of Haddon Heights, N. J.

No. 9 was not read until the close of the session, because Dr. Moyer had not yet arrived.

No. 10, "A Mastoid Case with Interesting Complications," was read by Dr. T. W. Stephens, of Pittsburgh, Pa. Discussion, Dr. Fred C. Sage.

No. 11, "Prophylaxis of Mastoid Infection," was read by Dr. G. D. Arndt, of Mt. Vernon, Ohio. Discussion, Dr. Neil Bentley.

No. 12, "The New Conception of Labyrinth Physiology," had been sent by its author, Dr. Frank Novak, of Cook County Hospital, Chicago, who was ill and could not attend the meeting. The paper was read by title. It outlined the work done by Dr. C. R. Griffith, who was expected to be present and give an account of his experimental and investigative work.

No. 13, "Venesection for the Relief of Intra-ocular Hemorrhage; Preliminary Report," was read by Dr. J. I. Dowling, of Albany, N. Y. Discussion, Dr. G. D. Arndt, Dr. W. D. Rowland; Dr. Dowling closing.

Prof. C. R. Griffith, of the Psychological Department of the University of Illinois, having arrived, was introduced, and gave an extemporaneous address on the subject of his researches. Discussion: Dr. G. W. Mackenzie, Dr. Burton Haseltine; Prof. Griffith closing.

Dr. William J. Blackburn, of Dayton, O., made a motion that the Society extend a vote of thanks to Prof. Griffith. The motion was seconded by Dr. Muncy, and carried by a rising vote.

The next in order was the "President's Address,"* by Dr. George W. Mackenzie, of Philadelphia, Pa.

Following the usual custom of the Society, the President's Address was referred to a committee, consisting of Drs. Haseltine, Denman and Myers, together with the Secretary and Treasurer *ex officio*.

Paper No. 14, entitled, "The Stereo-Campimeter and Its Use," was presented by Dr. R. I. Lloyd, of Brooklyn, N. Y., extemporaneously. Discussion: Dr. G. DeWayne Hallett, Dr. H. D. Schenck, Dr. W. D. Rowland; Dr. Lloyd closing.

No. 15, "Some Unusual Types of Ocular Infection," by Dr. F. O. Nagle, of Philadelphia, Pa., was the next on the program.

* The President's Address was published in the July issue of the Journal.

Dr. Nagle read his paper. Discussion: Dr. G. A. Suffa, Dr. R. I. Lloyd, Dr. Wm. M. Muncy; Dr. Nagle closing.

No. 16, entitled, "Carcinoma of the Ethmoid," by Dr. Ralph W. Hulett, of Champaign, Ill., was not read, owing to the absence of its author.

No. 17, "Electrolysis for Moles, Warts, etc.; Addenda," by Dr. James A. Campbell, of St. Louis, Mo., was the next paper presented. Discussion: Dr. J. R. McCleary, Dr. Neil Bentley, Dr. H. S. Weaver, Dr. I. L. Moyer, Dr. G. A. Suffa, Dr. Campbell.

Paper No. 9 had been passed early in the session, on account of the author's absence. He having in the meantime arrived, Dr. I. L. Moyer, of Columbia, Pa., was asked to read his paper after the close of the discussion on the paper of Dr. Rumsey. Dr. C. L. Rumsey, of Baltimore, Md., then read a paper on the "Xerosis Bacillus." This was a change from the title on the program. Discussion: Dr. W. D. Rowland.

There being no further discussion on Dr. Rumsey's paper, and the author having nothing to add, Dr. I. L. Moyer, of Columbia, Pa., read his paper, the title of which he changed from that on the program, making it, "A Case of Mastoiditis." Discussion: Dr. Wm. M. Muncy.

This closed the program for the afternoon.

Adjourned at 6 P. M.

THIRD SESSION—Tuesday Morning, June 21, 1921

The meeting was called to order by the President, Dr. Mackenzie, at 9.30 A. M.

Business Session—Under the heading of Reports of Committees, Dr. Alexander, the Chairman of the Committee on Attendance, reported that there had been forty present at the morning session on the preceding day, and sixty at the afternoon session.

The reports of the other committees were postponed until later, except that of the Auditing Committee. Dr. George B. Rice, the Chairman of the Committee, reported that the Auditing Committee had gone over the Treasurer's Report and vouchers, and had found them to be correct, and, therefore, recommended that the Treasurer's Report be approved.

In regard to several other matters that had been put into the hands of the Auditing Committee, Dr. Rice stated that one was a

consideration of the names of those that had not paid their dues, for a number of years. These names had been read, and the reasons given why they should make an effort to collect the money. With certain exceptions, the Auditing Committee recommended that these names be dropped from the list of members of the Society. The committee recommended that the dues of Dr. Kershaw, who had passed away during the last winter, be remitted; and that his family be notified that he had not been dropped from the Society.

In regard to Dr. B. G. Clark, of New York, who had presented his resignation, but who, one of his friends had told Dr. Rice, had reconsidered his resignation and wished to remain a member in good standing, the Auditing Committee recommended that he be allowed to do so, and that a bill for dues be sent him.

In regard to the matter of Dr. William L. Rhonehouse, of Toledo, Dr. Rice said that this had been left over. Dr. Denman had said that he would see Dr. Rhonehouse, as he felt very sure that that gentleman would pay his dues and remain a member in good standing. That completed the report.

It was moved by Dr. A. D. Williams, and seconded by Dr. D. A. Williams, that the report of the Auditing Committee be accepted and filed. Carried.

The following are the names read by the Chairman of the Committee:

Brooks, Dr. E. D., 210 National Bank Bldg., Kalamazoo, Mich.
Barbee, Dr. B. I., 60 E. Broad St., Columbus, O.
Baker, Dr. Leigh G., 1329 L St., N. W., Washington, D. C.
Bates, Dr. J. Bonnar, 14 E. Fulton St., Gloversville, N. Y.
Barndt, Dr. Milton A., Los Angeles, Cal.
Guy, Dr. John E., 307 Grand Ave., Milwaukee, Wis.
Gibson, Dr. F. M., 3315 30th Ave., S., Minneapolis, Minn.
Goodman, Dr. N. M., 419 Boylston St., Boston, Mass.
Hill, Dr. Emily L., 423 W. 18th St., New York, N. Y.
Kerr, Dr. Harlan T., 873 Story Bldg., Los Angeles, Cal.
Raiguel, Geo. E., 4510 Locust St., Philadelphia, Pa.
Ryan, Dr. Chas. Wm., 209 Ward Bldg., Battle Creek, Mich.
Speakman, Dr. Wm. W., 1825 Chestnut St., Philadelphia, Pa.
Soule, Dr. Isaac C., 1103 Main St., Kansas City, Mo.
Seidlitz, Dr. G. N., 308-10 Olivia Bldg., St. Louis, Mo.

Smoot, Dr. Peter G., 310 Market St., Maysville, Ky.
Ware, Dr. Horace B., Scranton, Pa.

This closed the business session, and scientific work was then begun.

Dr. Thomas L. Shearer read paper No. 19, entitled, "The Relation of the Endocrine Glands to Conditions Affecting the Respiratory Passages." Dr. Augustus Korndoerfer, Jr., who was to have opened the discussion not being present, the paper was discussed by Drs. Hepburn, Weaver, Schenck, Denman, Sowers, Shearer and Campbell. (Dr. Denman, in the course of his remarks, made a motion that the President be requested to publish the paper and discussion as early as possible. The motion was carried.)

Dr. Mackenzie then announced the substitution of the name of Dr. Phillips for that of Dr. Myers on the Committee on President's Address.

The next paper was No. 43 on the program, interchanging places with No. 20. The paper was by Dr. Dudley A. Williams, of Providence, and was entitled, "Some Points on Functional Hearing Tests." It was discussed by Drs. Muncy, Shemeley, A. W. Greene, Lewy, A. D. Williams and D. A. Williams. Dr. Mackenzie congratulated those who had taken part in the discussion and explained where the forks might be obtained.

The next paper was No. 21, by Dr. W. G. Shemeley, Jr., entitled, "Report of Additional Cases of Neurolabyrinthitis." It was discussed by Drs. Schenck, Williams, Shemeley and Mackenzie.

The next paper was No. 25, "Tumor of the Orbit in a Child of Seven Years; Removal by Electrothermal Coagulation," by Drs. J. V. F. Clay and W. C. Barker, of Philadelphia. It was discussed by Drs. Campbell, Clay and Barker.

No. 24, "An Interesting Case of Retinitis Albuminurica Complicated by Pregnancy," was read by Dr. Walter M. Yost, of Rochester, Pa.

Dr. G. A. Suffa, of Boston, Mass., then read No. 25, "Synergism, a Co-operative Action of the Extra-ocular Muscles (Continued)", which was discussed by Drs. Strickler and Mackenzie.

This concluded the program for the session, which adjourned at 12.10.

FOURTH SESSION—Tuesday Afternoon, June 21, 1921

The meeting was called to order by the President, Dr. Mackenzie, at 2.20.

The first paper presented was No. 22; an "Illustrated Lecture in Plastic Surgery of the Face and Mouth," which was given by invitation, by Dr. R. P. McGee, of Pittsburgh, Pa.

Dr. Mackenzie: This has certainly been a very instructive lecture, and I assure you, Dr. McGee, that we enjoyed it.

We will now have the report of the Committee on the President's Address, which will be presented by Dr. Burton Haseltine, of Chicago, the Chairman of the Committee.

Dr. Haseltine: We have not entirely completed it yet in its proper form. We would like the action of the Society on it, however, and will put it in a more elegant form later. We wish the Society to go officially on record as approving the work done in the editorial field by the President and present Editor, Dr. Mackenzie.

In regard to the change in the Journal, we do not feel that any change can be made at present. We, therefore, recommend that the present editorship be continued, with the understanding that Dr. Mackenzie will, with our assistance, endeavor to find a suitable man and get him trained to take over the responsibility. Further than that, we do not feel at liberty to go at present.

The next question is in regard to the financial condition of the Journal, a question almost as difficult as the one of editorship. The plan recommended to the Society for the solution of that is the plan partly carried out at the last year's meeting at Pittsburgh, when we raised some funds for the assistance of the Journal by taking extra subscriptions. The result of that was read this morning. We endorse the further development of the same plan.

We also endorse the plan to have a closer co-operation between this Society and the New York Ophthalmic College and Hospital. Dr. McLean is to make some constructive recommendations regarding this matter.

The committee is in accord with the suggestion of Dr. Mackenzie that Dr. Myers be recommended for the deanship of the Homœopathic Department of the University of Michigan. We want the Society to go on record as advising his appointment; and we would further recommend that a committee be appointed, of

which the President shall be the chairman, to wait on President Burton and express the feeling of the Society on that point.

In closing, we wish to express our appreciation of the splendid work of Dr. Mackenzie, not only this year, but in the editorship of the Journal during years past.

It was moved and seconded that the report of the Committee on President's Address be accepted and filed in the records of the Society. Carried.

The report of the Committee on Nominations was presented by Dr. William H. Phillips, of Cleveland, Ohio, the Chairman, as follows:

Report of the Committee on Nominations

Dr. Phillips: Dr. W. R. King, as the senior member of the committee, called a meeting this morning. He is not able to be present at this time, and has asked me to present the report for him, which is as follows:

Recommendations of the Nominating Committee of the O., O. & L. Society for 1922-23:

President—J. R. McCleary, Cincinnati, Ohio.
First Vice-President—W. D. Rowland, Boston, Mass.
Second Vice-President—W. J. Blackburn, Dayton, Ohio.
Secretary—Neil Bentley, Detroit, Mich.
Treasurer—William M. Muncy, Providence, R. I.
Necrologist—Ella G. Hunt, Cincinnati, Ohio.
Censors—C. E. Williams, New York City; Alva Sowers, Chicago, Ill.; W. H. Williams, Middletown, Ohio.

We recommend that the Secretary have prepared for publication in the Journal an up-to-date list of members, with correct addresses, and keep on hand, for the use of the Nominating Committee, a correct list, with dates of incumbency, of all past-presidents of the Society.

(Signed) W. R. King, Sr., *Chairman.*
W. H. Phillips, *Secretary.*

Dr. Bentley said that he had this list ready. He had made that recommendation. Its publication, however, would entail some expense, and he wanted the authorization of the Society for this. This had been obtained, and he would have the list printed.

Dr. Mackenzie explained that they had been waiting to find

out what new members had been taken in, and what ones had been dropped. He hoped also to publish in the Journal the Constitution, with the last amendment made, a year previously.

Dr. Phillips moved that the report be accepted, and that the Secretary be instructed to cast a ballot for the ticket as selected by the Nominating Committee.

The motion was seconded and carried. The Secretary cast the ballot, and the President declared these gentlemen elected.

Dr. McCleary, the newly-elected President, was invited to address the Society, and did so as follows:

Address of the Newly-Elected President

I appreciate very deeply the honor that you have conferred on me, Mr. President and Members, and assure you that it will be my best intention to keep up the efforts and continued interest that the past presidents have been putting into the Society. You and I realize that a president is valuable only when he gives one hundred per cent. service. If I can give one hundred per cent. service, I will do it from the bottom of my heart. As an executive, I will work, too, by calling on a lot of you for service. The executive must get help, and make use of the best material we have. We have the best eye, ear, nose and throat society in this country. We have more men who are distinguished in this class of special work than any other society. I would like to see the Society maintain the same high standard in the future as in the past. Thank you very much.

Dr. Mackenzie then announced that the evening session would be devoted to Medical Economics and that the question of the financing of the Journal would also be discussed at that meeting. This concluded the business, and scientific work was begun.

The first paper was that by Dr. R. P. McGee, of Pittsburgh, No. 22, deferred from the morning session on account of the necessity for a lantern. It was entitled, "Illustrated Lecture on Plastic Surgery of the Face and Mouth." (By invitation). There was no discussion on this paper, but the author received, on motion of Dr. McLachlan, a rising vote of thanks.

It was decided to discuss the matter of the financing of the Journal at the evening session, before taking up the question of Medical Economics.

Dr. M. B. Coffman was not in the room when his paper was

called for (No. 26), so Dr. Mackenzie requested Dr. Harry M. Sage to read his paper (No. 27), entitled, "Hyperplastic Ethmoiditis; A Resumé of Literature and Observations." In the absence of Dr. Myers, who was to have opened the discussion, the paper was discussed by Dr. Rowland.

Dr. Hubeny, of Chicago, not being present, No. 28 was not read. Dr. R. C. Cooper, of Pittsburgh, read his paper, No. 29, entitled, "A Case of Brain Abscess," which was discussed by Drs. Mackenzie and Cooper.

Dr. McCann, President of the Institute of Homœopathy, spoke a few words, stating that they could hear him talk all they wanted in the General Assembly Room.

Dr. Richard Furlong, of Endicott, N. Y., author of paper No. 30, was not present.

Dr. Gilbert J. Palen, of Philadelphia, author of No. 31, was also absent, but had sent his paper, entitled, "Undergraduate Teaching in Otology." It was read by title.

No. 32, "Magnesium Mur in Facial Neuralgia, with Report of a Case," was then read by Dr. Harry S. Weaver, of Philadelphia. Dr. Marter, of Philadelphia, who was to have opened the discussion, not being present, the paper was discussed by Drs. Hubbard, Schenck, Weaver and McCann.

No. 33 was not read on account of the absence of its author, Dr. H. E. Moore, of Ambridge, Pa.

No. 34 was passed for the time because one of its authors, Dr. Metzger, was attending a meeting of the Board of Trustees of the Institute.

No. 35, "Symmetrical Central Degeneration of the Retina, with Report of a Case," according to the program, had its title changed by its author, Dr. George W. McDowell, of New York City, to "Bilateral Symmetrical Macular Degeneration, with Report of a Case." It was discussed by Drs. Lloyd, Mackenzie, Suffa and McDowell.

No. 36, "Some Experiences in the Treatment of Chronic Otitis Media with the Oto-Concussor," was read by Dr. D. A. MacLachlan, of Detroit, Mich. It was discussed by Drs. Philip Rice, Phillips, Bentley, George B. Rice and MacLachlan.

Paper No. 34, "Two Rare Cases of Basilar Tumors Affecting the Visual Field," by Drs. S. B. Moon and I. D. Metzger, of Pitts-

burgh, was then presented, each author reading a part of the paper. It was discussed by Drs. Phillips, Mackenzie, Suffa, Lloyd, Moon and Metzger.

The meeting adjourned at 6.30 P. M., to meet at 8 P. M., for the fifth session, which was not reported.

FIFTH SESSION—Tuesday Evening, June 21, 1921

Bureau of Medical Economics, Burton Haseltine, M.D., Chairman
(An Informal Smoker)

The following papers were presented:

"The Need of Economic Education in the Medical Profession." Burton Haseltine, Chicago, Ill.

"Medical Service as a Commodity in the Industrial World." Frank Wieland, Chicago, Ill.

"Practical Results of Business Education Among Physicians.' Alvin W. LaForge, Chicago, Ill. Discussion opened by Seymour B. Moon, Pittsburgh, Pa.

At the conclusion of the reading of the papers a general discussion followed in which many of the members participated.

SIXTH SESSION—Wednesday Morning, June 22, 1921

The meeting was called to order at 9.20, by the President.

Dr. George B. Rice, of Boston, reported two more applications for membership, one from Dr. C. S. Grabin, whose name had come up the previous year too late to be acted on. He had paid his initiation fee, and had been endorsed by Drs. Greene and Clapp. The Board of Censors recommended his election to membership. The other applicant was Dr. F. G. Hulbert. of Chicago, endorsed by Dr. Neil Bentley. Recommended by the Board of Censors and elected to membership. Initiation fee had been paid.

It was moved and seconded that the two applicants whose names had been read by Dr. Rice be accepted as members.

Dr. H. D. Schenck, of Brooklyn, N. Y., called attention to the fact that the report of the Committee on the President's Address had been accepted, but not adopted, at the meeting on the previous day. He moved that the recommendations contained therein be taken up seriatim and adopted. The motion was seconded and carried.

It was moved and seconded that the first recommendation, that

the editorship of the JOURNAL remain the same, be adopted. Carried.

The second recommendation was in regard to the financial support of the JOURNAL, and the committee recommended that the action taken at the Pittsburgh meeting be continued, namely, that the different members of the Society be asked to subscribe for a definite number of copies of the JOURNAL, to be mailed to their friends; they paying into the treasury the amount of four dollars per subscription. The idea was to make this action on the part of the members more extensive, but still to leave it optional with them. Dr. Suffa doubted whether it would be wise to make such an appeal, and said that some members might not want to send copies of the JOURNAL to anybody, but might be willing to send a certain amount of money.

Dr. Bentley replied that this could be left to the members. It was felt, however, he stated, that they did not want charity, but an increased subscription list. Through having a larger circulation, the JOURNAL would get larger advertising rates. The idea was that the Secretary be authorized to make a general appeal to the membership all over the country.

Dr. Schenck made a motion that steps be taken to bring the matter before the membership of the Society, for the purpose of increasing the subscription list of the JOURNAL. The motion was seconded and carried.

Dr. Bentley then said that the committee had considered the prize for original research a matter of larger importance than the recognition of the Society. They had felt that the Society itself could not take it up. No motion was required in regard to this.

The committee heartily endorsed the plan for a closer affiliation with the New York Ophthalmic Society.

Dr. Muncy stated that Dr. McLean had a report to make in that connection.

Dr. Bentley suggested that the matter be left until Dr. McLean arrived. The Secretary went on to say that the committee was in hearty accord with the recommendation of Dr. D. W. Myers, of the University of Michigan, at Ann Arbor, and recommended that a committee of three be appointed, with the President as chairman, to wait on President Burton and express their approval of the selection of Dr. Myers as Dean.

Dr. Schenck moved that this recommendation of the committee be adopted. The motion was seconded and carried.

Dr. Mackenzie promised to appoint the committee of three later.

This ended the recommendations contained in the report of the Committee on the President's Address.

Dr. Muncy, the Treasurer, reported when the change had been made in the dues from three dollars to two dollars, at the suggestion of the Treasurer, so that three dollars could go to the JOURNAL, he knew, figuring the number in the Society, that two dollars a member would be sufficient for the expenses of the Society. There were a large number of members in arrears, and these back dues made a little extra in the treasury. He thought, however, that it was no more than right, so that the treasurer should not be embarrassed by the possession of so large an amount, that they appropriate from the treasury one hundred and fifty dollars to the JOURNAL for printing the Transactions. He made a motion that this be done. The motion was seconded by Dr. Bentley, and carried.

Dr. Bentley then offered the following resolution:

"*Resolved,* That a copy of each issue of the JOURNAL be sent to each member of the American O., O. and L. Society, and that each member pay annual dues of five dollars, three dollars as a subscription to the JOURNAL." The idea was that the post office authorities had held up Dr. Mackenzie for over a year-and-a-half, on the ground that this was not a *bona fide* publication. This resolution had been passed the previous year, but the authorities were still not satisfied. Dr. Bentley thought, therefore, that it was well to pass it again, and send another copy to them.

The resolution was seconded by Dr. William H. Phillips, of Cleveland, Ohio, and adopted.

There being no further new business, the reading of the papers was commenced.

The first paper on the program, No. 40, was not presented, owing to the absence of its author, Dr. H. R. Wynn, of Ann Arbor.

No. 41, "Hay Fever," by Dr. A. D. Williams, of Huntsburgh, Ohio, was read, and was discussed by Drs. George Rice, Bentley, Shemeley, Weaver and Williams.

Paper No. 42, "The Mercurials in Aural Practice," was by Dr.

H. P. Bellows, of Boston, who was not present, but had sent his paper. Dr. H. D. Schenck, of Brooklyn, who was on the program to open the discussion on this paper, had written out his discussion and sent it. It was decided to have the paper read, if time permitted, at the end of the session: but this was not done.

The next paper, No. 43, had already been presented in the place of No. 20, "Relation of Posterior End Hypertrophies to Ear Conditions," by Dr. William M. Muncy, of Providence. The latter paper was now read by Dr. Muncy, who stated that the real title should be, "The Relation of Ear Conditions to Hypertrophies of the Turbinate." The paper was discussed by Drs. D. A. Williams, Alexander, George Rice, Phillips and Muncy.

Paper No. 44, by Dr. John G. Wurtz, of Pittsburgh, was entitled, "The Value of the Laboratory in Diseases of the Eye, Ear, Nose and Throat." It was discussed by Drs. Moon, Metzger, Muncy, Lewy and Wurtz.

Nos. 45 and 46 were two papers by Drs. C. E. Ferree and G. Rand, of Bryn Mawr, Pa., entitled, respectively, "An Illuminated Perimeter with Campimeter Features," and "The Variable Factors which Influence the Determination of the Color Fields." They were both read by Dr. Ferree. The discussion on the first was opened by Dr. Lloyd, and that on the second by Dr. McLean. The discussion was continued by Dr. Shepard, and closed by Dr. Ferree.

Dr. McLean, as Chairman of the Committee on Post-Graduate Teaching, made an extemporaneous report:

It was moved and seconded that the report be adopted. Carried.

No. 48, "Treatment of Tuberculosis of the Larynx," by Dr. G. B. Rice, of Boston, was next presented. It was discussed by Drs. Lewy, Phillips and Rice.

No. 47, "Myopia," by Dr. J. W. Stitzel, of Hollidaysburg, Pa., was the last paper presented. It was discussed by Drs. Shepard, Stitzel and Phillips.

Dr. G. E. G. Norton, of New York City, author of No. 49, "Postoperative Fusion After the Age of Thirty-Five," being absent, the Society adjourned *sine die* at 1.30 P. M.

THE ECONOMIC VALUE OF SPECIALISTS*

FRANK WIELAND, M.D.,

Chicago.

I AM not a specialist on the eye. To be quite candid, I have never been much impressed with eyes, except as places in which to catch cinders. They seemed to serve an utilitarian purpose there. I am not a poet, but if I were, I should never write poems on "The Light Within My Lady's Eyes," any more than on any other of her organs. I should be much more inclined to write on "My Lady's Lungs," as in provincial circles lungs are called lights, and there would seem to be some excuse for such an outburst. The presentation of this paper is just an accident. We hope it will be attended with no fatalities.

This day has been a date of fate for me. It has been one of great enlightenment. I have never taken eye, ear, nose and throat men seriously. Their specialty has always seemed to me the specialty of despair. If one fell down on stomachs—of course I do not mean literally—I make no reference to gastropods—or obstetrics or anything else that requires the frequent washing of one's hands, one could always fall back upon the eye, ear, nose and throat, with no stock in trade except a new tie, and a delicately perfumed haircut. Always when one of our graduates has come to me for advice, as graduates always do, and asked as to the wisdom of spending his days running an elevator, or taking up your specialty, I have never been hasty in my reply. Both occupations seem to require such similar qualifications. But if one looked good in a uniform, surely it would be a pity to take up work in which one could not wear a uniform. You and elevator men have seemed to have so much in common. Both must have good manners, both must have good figures, and both must be able to say, "Isn't it a lovely day?" with just the proper inflection. When you diverge from these measurements, you become traitors to your better instincts. You begin to worship at the shrine of Mammon. This is the way I used to feel. And then the conversion came.

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*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

Greater men than I—or at least men as great—have been converted. Saul, if perhaps you have ever heard of him, had been converted from a life almost as colorful as that of your specialty. Conversion has thus the dignity of age.

Everyone should have an avocation. This is especially true of physicians. Some like golf, some are profane in the operating room, as a relaxation, and some raise beans. It doesn't really make very much difference what one does, if it takes his mind away from his usual occupation. In my own case, after having taught genito-urinary diseases for twenty years or more, I began to realize my limitations. I had begun to think the whole world had nothing of interest above the waist line. I did not deny the actuality of another area, like the Christian Scientists; I just didn't sense it. And then my conversion came. Since then I have had the most wholesome respect for eyes and ears and noses and throats, much as I dislike them as organs of the human body.

Under circumstances into the nature of which I need not enter, there came to me the opportunity of being physical dictator or mentor, of some eight thousand souls. Of individuals, as such, I had had large experience. Of communities to be regarded as individuals, I had had no experience at all. It was an alluring temptation, to take this large body of people of mixed types and mentalities and see what could be done along health lines. One large insurance company has made a similar experiment, only in its case, it took a whole town. Mine was a whole town, too. There are many smaller towns than eight thousand souls.

Of the many and large problems of diet and ventilation and sanitation, and the thousand and one things that enter into health conditions I need not enter. The experiment is now nine years old. That makes me think it has been regarded as a success. But I feel sure you will be interested in the economic value of experiments along the line of your special work. I know I talk in platitudes when I mention the wisdom of proper eyesight, and proper breathing space in noses. All people know these things. But I am now talking of economic values. If the man on the street sees badly, that is nothing in your young lives, unless he comes to you as a patient. But suppose he is an employee of yours, and his defect is costing you real money. It is then you begin to see the em-

ployer's side of a problem that up to date has been a purely impersonal one with you.

In the plant of which I speak, there is a large rest room supplied with thirteen beds. I passed through this room one day, and found each bed occupied. I asked the nurse in charge why so many girls were ill during working hours, when they were so badly needed at their desks. Of the thirteen, thirteen had headaches. Headaches are apt to be from intestinal causes or from eyestrain. On this particular day, most of the patients came from one department, and over a period of time, this had proved to be true. In one room, accommodating six hundred girls, supervised by an extremely courteous man, the room well-lighted and well-ventilated, we rarely had a sick girl. There was thus some reason why girls in this other department made poorer records for hours at work.

The answer was soon found. The room, a very large one, had artificial lights much too far removed from the desks. There was thus a constant strain to see. This had a wearing effect on the nerves, as, in doing piece-work, all girls work under the highest tension. But this was only partly the cause. The supervisor was a young person anxious to make a record, and was much impressed with the little brief authority in which he was clothed. He was a slave driver, although he would never have so regarded himself. But he did not see the point at all; that if one girl fainted at her work, and lost an hour, and this experience occurred often, he would more than lose out, in the long run. The lighting was corrected and the supervisor was passed along. Headaches became almost a thing of the past. Every employee, man or woman, who had symptoms of eyestrain must have the eyes examined. This is done at the firm's expense. With us it is purely a business proposition. If a girl cannot see properly, she is an economic loss to us. But it is much cheaper to correct her vision than to drop her, for the new girl has to be trained. All of our eye examinations are done by specialists of established reputations. If it were possible in so brief a paper to go into cases, the nine years of experience would read like a story. One girl seemed to be going blind. She had worked a good many years, and was of such value in her department that it did not seem possible ever to find anyone to take her place. Careful examination eventually showed congenital syphilis. Her sight has improved under potassium iodide. I do not think

anyone confining himself to venereal work only would ever have thought of her as a syphilitic. She gave no history, and her blood was negative. The spinal fluid was positive. She is saved to us for many years, I hope. Her eye specialist said that he could not account for her condition except as the result of syphilis. He persisted until he found it. As wages go these days, few girls could go into the extended examinations that these obscure cases require. If they have headaches, they lie off a day or two, and load up on headache medicines. Knowing this to be the case, we assume the expense of such examinations, and the chances are that we are the gainers in the long run. In these days of poor business, where each employee must do the work of several, we cannot afford to have a desk vacant, even for an hour.

Ten years ago the relationship of focal infections to systemic conditions was not very well known. If today an employee were to be ill for a year with inflammatory rheumatism, a search for the cause would be made, instead of simply trying to fit the remedy to the disease. I have in mind one boy of seventeen, sick one year in bed with rheumatism. Eventually, his tonsils were removed. He recovered. He has not lost a day since his operation, although his heart is badly crippled. I wonder if you realize what his restoration to health means to me. I have a limited sum of money with which to work. Not so horribly limited. Up to the past year I had $10,000 a month for the use of my department. Now I have only half that, but, of course, we have fewer employees. At this time, we take on no employee who has infected tonsils. We give applicants one month in which to have the tonsils removed, during which period they are provisionals. If they have not been operated at the end of the month, they are removed from the pay-roll. We have not had a case of inflammatory rheumatism for several years. We require that focal infections be eradicated. Teeth may be the offending agents. We take no one whose teeth are in bad shape.

A deaf employee has his limitations. If one becomes increasingly deaf we try to find the cause. In many instances the deafness has been secondary to nasal deformities. It is hard to make a Polish trucker see why he should become deaf, just because a fellow countryman at a Polish wedding has spread his nose over his face as part of the marriage celebration. But we have the noses made over, and the deafness improves.

Possibly I have shown why, in a community of many thousands of people of mixed types, we have practically no sickness. We have no typhoid, no tuberculosis. We can't afford to have these things, because, according to our by-laws, no one who is ill may be dropped from the pay-roll. Many things have entered into our success. I am frank in stating that I think the homœopathic care that we give our employees has been the largest factor. We lost only one case of flu through two epidemics. We have never lost a scarlet fever case, or one of diphtheria. Now these things don't just happen. I'll wager that there isn't a town of eight thousand souls in the world that has as high a health percentage as my community of workers. Of course, the reason lies in the paternalism we exercise. Paternalism may be a bad thing in some ways, but in an industrial plant it is the only plan by which we can make and keep our people well.

Now, my distinguished specialists, you have my avocation. I mess around into the private lives of people, telling them what they may eat and wear and what operations they must have, and what they may not have. I am an expensive luxury but I believe I am regarded as worth while. And when I have finished messing around, I go to my office and earn my living, not as a specialist on the eye, ear, nose and throat, but by chasing the nimble gonococcus and the more elusive spirochete.

Just one word more will close this paper. You can scarcely imagine, unless you have been doing group work, how largely one can get away from drugging, and the giving of much medicine. I know that the following is a revolutionary statement, and perhaps I should apologize for making the statement at all. But to be quite candid, the average person requires little medicine of any sort. Getting away from drugging is a matter of education, largely. When we took charge of the plant I had in mind, the drug room looked like the back room of a pharmacy. Now we have a few dozen of homœopathic remedies, from tinctures to 30ths. So often a little talk with the patient will show him that his home hygiene is bad, that his care of himself is wrong, and that what he needs is not medicine, but a few sound remarks on how to live.

At a recent meeting of our State Society I heard a gifted homœopath say that castor oil never cured anything. I wish now to challenge that statement. Over a period of a long time, every

Wednesday at 2 o'clock many of our girls took suddenly ill. Sometimes as many as fifty would appear at once, all at the apparent point of death, wishing passes to go home. This always occurred on Wednesdays, and at 2 P. M. We looked in vain through our repertories for some remedy that affected only girls on that day of the week, and at that hour of the day, a most unusual symptom-complex. Our head nurse has become a good homœopath. She has the spirit of the pioneer, the discoverer; the enthusiasm that made Hahnemann a new force in medical science. For just that train of symptoms she found a remedy in castor oil. When the girls came up for their passes home she would say, "O dearies, I am so sorry you are sick. Now just take this medicine, and lie down awhile; then you may go home—if you wish." She gave them a large dose of castor oil, insured with Lloyd's to be effective at 2 P. M., kept them in the rest lounging room until after the matinee had begun, and then allowed them either to go home and lose half a day, or go back to work and get paid. They always returned to work. If you find this symptom-picture among your employees, study castor oil. It cured our girls of the matinee habit.

Tuberculosis of the Sphenoid Bone.—H. Kurzak, *Zeitschr. für Tuberkulose,* Leipzig, July, 1921; *Abstr. Jour. A. M. A.,* Sept. 24, 1921. The author gives details of a case in which a tuberculous process in the sphenoid bone was responsible for retrobulbar injury of the optic nerve in a young man who died in a few days after the bilateral evacuation of pus in the sphenoid sinus. Necropsy revealed the process in both bone and sinus. The author compares with this case six from the records, in which there was a tuberculous process in the sphenoid bone or pituitary—both in three cases; and thirty-four in which the pituitary alone was the seat of tuberculosis. In the seven sphenoid cases there were always signs of tuberculosis in other organs. H. L. G., Jr.

A CASE OF MASTOIDITIS *

I. L. Moyer, M.D.,

Columbia, Pa.

I PRESENT this case because of the amount of discharge or rather the lack of discharge from the ear. The patient is a schoolgirl eight years of age, who had her tonsils and adenoids removed six weeks previous to this illness. The tonsil on the side of the involved ear was badly diseased.

When I was called to treat this patient I found her on a couch suffering with an attack of la grippe. This attack was accompanied with sore throat, chilly and hot sensations, occipital and frontal headache, with aching of the entire body. I prescribed gelsemium tincture and calomel, one-tenth grain doses every fifteen minutes for eight doses. Gelsemium ten drops in one-half glass of water, one teaspoonful every one-half hour. This was on February 15, 1921. I continued to give the gelsemium tincture until the 18th of February, when all symptoms of la grippe had disappeared. At this time I informed the family that I would not return to see the patient unless I was called.

On the afternoon of February 21, 1921, the patient's aunt called at my office for earache medicine. I gave her the following medicine: Chamomilla 3x dilution and belladonna 3x dilution in alternation on disks, three disks to be given every hour. Also carbolic acid 95 per cent. (colorless) one part, and glycerine one part. One drop of this to be dropped into each ear every three hours until relieved.

The next morning I was called to see the patient as soon as possible, because she had not slept all night. I found her red hot, very restless, crying with sharp shooting pain in both ears, also aversion to heat. This time I prescribed aconite tincture and ferrum phosphate, 2x in alternation, ten drops of the tincture of aconite in a glass one-half full of water, and twenty-four one-grain tablets of ferrum phosphate 2x in another glass one-half full of water, alternating every half hour, a teaspoonful at a time. I also

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

had the fumes of chloroform blown into the ears by means of a clay pipe and cotton saturated with chloroform.

This treatment was continued all through the 23rd of February. On the night of the 24th of February there was one stain of bloody pus on the pillow-case; this was the only discharge from the ears. On examination the ears were dry; at no time had I found bulging of the eardrums. On February the 25th there was severe pain on the right side of the head and in the right ear, with a heavily-coated tongue, dilated pupils and eyes sensitive to light. I changed the internal medicine to belladonna, 3x dilution, ten drops in a half glass of water, one teaspoonful to be given every half-hour.

On the 26th of February there was still some pain on the right side of the head extending to the right frontal eminence. No pain in the ear but severe pain in the abdomen on least motion, with a persistent coated tongue. I prescribed echinacea tincture, one ounce in one-half glass of water, one teaspoonful to be given every hour.

On February the 27th the pain was all gone on the right side. Also the coating of the tongue commenced to leave, with decrease in temperature and the pulse less frequent. The temperature was running along 101 degrees from the 22nd to the 27th of February. The pulse 130 from the 22nd to the 27th, and the respirations about twenty per minute.

On February the 28th there was no return of the pain on the right side, with a good night's sleep, and more decline in the temperature and pulse-rate. The patient also wanted more than liquid diet, as well as to get out of bed. The general appearance of the patient was very good.

At this time I changed the medicine to every two hours instead of giving it every hour. I returned to see my patient on March the 2nd. At this time I allowed the patient out of bed for short intervals, and still more to eat, also medicine every three hours. On March the 4th I allowed the patient out of bed until fatigued, but not to leave the room until I saw her again on March the 6th, when I allowed her to go down stairs; she seemed very well but did not stay long, and went back to her room and bed. She would not eat any dinner and in the afternoon commenced to complain of her ear on the right side.

I was called again at 8 o'clock in the evening. When I exam-

ined her I found the right mastoid very painful on pressure, also redness and swelling over the right mastoid bone. I immediately prescribed capsicum the 6x dilution, ten drops in a glass one-half full of water, a teaspoonful to be given every hour. I returned on the morning of the 7th and found the patient had had no sleep all night, with the entire right side of the head swollen and intense pain back of the right ear. In the afternoon she was removed to the hospital and operated on for mastoiditis. We found an area close to the outer surface of the bone directly back of the external auditory meatus with about eight drops of pus. The bone involved was about the size of a nickel. This was cut away and the opening packed. The patient left the hospital 21 days after the operation, the wound being completely healed.

This patient had an attack of la grippe, one drop of discharge from the ear, apparent recovery, and a sudden development of mastoiditis of the right ear.

Discussion

William M. Muncy, Providence, R. I. I cannot let this paper go by without a few remarks from the more technical side. The essayist, from inspection of the ear, not finding any bulging or redness of the drum, drew the conclusion that he did not have a marked complication. You can not, however, in some cases, depend on the simple inspection. I recently saw in consultation a case in which there was only the slightest redness in Shrapnell's membrane, and along the hammer handle. There was a temperature of 103, but no tenderness, swelling or redness in the region of the mastoid, though when examined the day before by a general physician, tenderness was elicited. Bulging of the drum could be seen, but after careful cleansing of the nose and post-nasal space, Politzerization showed there was a great deal of fluid in the middle-ear, and also a bulging of the drum that did not return. I did a paracentesis and found not only mucus, but pus. It is impossible to depend on the appearances alone for they are sometimes deceptive. The doctor had a marked middle-ear condition which did not produce a pathological picture so far as the drum was concerned. It should also be said if a functional hearing test had been made it would have shown immediately that there was a marked obstruction, even though the drums did not show any signs on inspection.

There seems to be a difference of opinion as to when a mastoid condition really exists. Every marked middle-ear suppuration gives a congestion of certain cells in the mastoid region. It is best to speak only of those cases as mastoid where there is considerable involvement, showing certain signs.

Post-Graduate Work in the United States.—The paper of Ross Hall Skillern (Chairman of the Ear, Nose and Throat Section), read at the June meeting of the A. M. A., referred to the trend of post-graduate work in the United States. We are ably represented by men of the highest training and standards in our specialty, men who cannot be surpassed collectively by those abroad; we have now established several schools exclusively devoted to our work, and we have strong societies and journals devoted to the subjects. The demand for short-term, intensive courses appears to be lessening and a more serious demand for thorough, complete instruction is in vogue. For the beginner the private courses, with certain exceptions, cannot now supplant the thorough training and breadth of the post-graduate courses, such as are offered at the Post-Graduate School of the University of Pennsylvania. Such courses for the young specialist are invaluable. Advanced work and final touches must, of course, be handled more particularly, and in time the post-graduate school will, no doubt, meet this demand. Above all, the time taken is an index of the possibilities for thoroughness of instruction. D. M.

SOME MODIFICATIONS IN THE RESECTION OF THE NASAL SEPTUM

M. B. Coffman, M.D.,

Richmond, Va.

THE excuse for this paper is that the various methods of packing commonly employed after the sub-mucous resection tend to produce:

1. Excessive hemorrhage; *i. e.,* when packing is removed the surface of the mucous membrane comes away with the packing, causing an extravasation which for a short time is really hemorrhage, besides which it does not decrease bleeding during the time it is retained.

2. Pain is excessive where packing is used, due to swelling of the soft tissues.

3. The presence of foreign substances in the nose, plus swelling, blocks the exits of the accessory sinuses, also the eustachian tube, and frequently results in both acute sinus infection and acute middle-ear disease and their concomitant ills.

4. Pressure of packing against the fragile M.M. results sometimes in necrosis of the Schneiderian membrane and perforation.

Technique.—The incision, elevation of perichondrium and periosteum, and removal of the deflected portions of cartilage and bone are done after the usual manner employed by the operator.

In the event of accidental perforation of the opposite mucosa, this can readily be closed by suturing from its own side.

Suturing Technique.—A needle, as per diagram and sample, is threaded with 00 catgut (20-day chromicized).* The needle is introduced in the upper flap at its posterior end about one-sixteenth inch from the margin (care being taken to pass suture through periosteum), and from the *mucous* surface, then passed through the lower flap from the periosteal surface. A continuous suture is made the length of the incision, the stitches being from one-eighth to one-sixteenth inch apart. The same care must be taken to properly approximate the margins as one would take in suturing a

*Catgut will last from 24 hours to 7 days in the nasal M. M.

cutaneous incision. When suture is complete apply slight tension on each end of catgut. This approximates the margins of M.M. and the ends may then be tied.

Usually a slight bleeding begins from two to three hours after the operation is completed, and changes to a serous and mucous discharge within eight to twelve hours. Haematomata, sinus infections, middle-ear infections and other complications are seldom observed except in cases of diseased tonsils, or where there may have been left a sliver of bone or cartilage.

The writer makes it a rule, where possible, to remove tonsils before doing a septum operation, as the most frequent source of infection is the pharynx. He also makes a routine requirement that the patient shall avoid contact with persons from whom he might acquire infections, such as acute rhinitis, etc. The post-operative discomfort of the patient consists mostly of headache (frontal), which may last as long as twelve to fourteen hours.

The technique of suturing is not difficult if there is an assistant present to hold the nasal speculum, leaving the operator both hands free, one to handle his needle in a stork forcep, the other to handle a rat-toothed stork forcep by which to grasp the margins of M.M. while he passes his needle through. It simplifies the operation if he grasps the distal end of the suture with a pair of artery forceps, which may be parked and held in position by the assistant on the side of the patient's face. The average time of suturing required by the writer is eight minutes.

ABSTRACTS

Causes of Failure in the Radical Operation on the Frontal Sinus.—Thomas J. Harris, of New York, notes the well-known swing of sinus treatment from its incipient operative enthusiasm through an era of decidedly disappointing results, to the present period of questioning the value of operative measures. "Failure in the radical operation may be said to be our inability to relieve by an operation the symptom or symptoms of which the patient complains, or the producing of a new symptom or symptoms as a result of the operation. . . . No one would presume to do the

(radical) operation today except in an emergency, until all milder intranasal procedures have been carried out without success." Facing the evolution of operative procedures Dr. Harris enters upon a discussion of the Kilian operation and the causes of failure with this operation. The filling in of the soft orbital tissues which is looked for after the removal of the sinus floor, often is incomplete. This is particularly true with large sinuses. Again, removal of all diseased sinus tissue is not complete in many cases; this means the bottling up of bacteria, resulting in evidence of orbital infection or return of pain and purulent discharge. Contraction of the fronto-nasal duct is a third cause of failure most frequently seen. This closure does not necessarily mean obliteration of the region with fibrous tissue; after recent operation it usually means granulation tissue. Lothrop's operation of enlarging the duct from above was reported as most successful. The principle of the functional reason for the existence of the frontals is considered. By this operation better aeration of the cavity is maintained and the opposite to obliteration is encouraged. The operation is open and is done with direct observation, an advantage over the blind destruction by the intranasal route.—*J. A. M. A.,* Oct. 8, 1921. D. M.

Wood Alcohol.—Dr. S. Lewis Ziegler created a timely sensation by a paper read before the Pennsylvania State Medical Society (Allopathic), the subject being, "The Peril of Wood Alcohol." Dr. Ziegler is an eye man and well fitted to express wood alcohol's greatest danger. His statement shows that the drug is made more toxic than is usually imagined; one teaspoonful has been known to cause blindness. Sudden blindness with vomiting and abdominal pain should always arouse suspicion, especially if diplopia or ptosis is associated. Papillitis, sector-like atrophy and sudden sclerosis of the nerve-head are equally typical fundus lesions. Contracted fields and central or paracentral scotomas are usually present. Symptoms of pituitary injury are most suggestive. Dr. Ziegler notes a new and efficient test, Robinson's test for wood alcohol. Special legislation is sadly needed to check this present daily death toll—and this legislation should be directed toward control of the manufacture, sale, labeling, taxation and testing of products containing this drug.—*J. A. M. A.,* Oct. 8, 1921. D. M.

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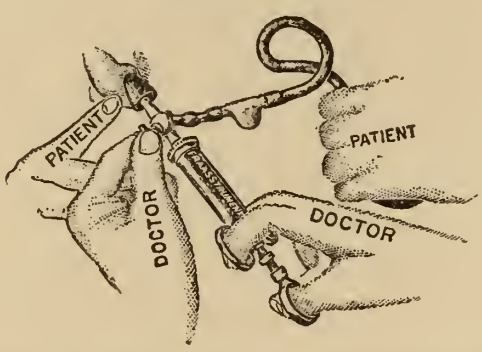

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Editorial

WHAT IT MAY MEAN TO BELONG TO A NATIONAL SOCIETY OF SPECIALISTS.—(*Continued*)

LAST month reference was made editorially to the advisability of the eye, ear, nose and throat specialist being a member of one or more of the national societies devoted to these specialties if for no other reason than that of protection. What kind of protection? The same kind of protection that your college diploma and State Board certificate grants you. It is conceded by the medical profession that the granting of diplomas and certificates of fitness to practice medicine is a good thing to protect the laity and the profession against quackery in the prescribing of drugs. If this is conceded to be true why should not the laity and profession be protected also against quackery when it comes to the treatment of the organs of special sense that requires an even greater degree of skill than is necessary in the treatment of those conditions that come within the scope of the general practitioner. No one not holding a medical degree and a certificate granted by a state licensing board may prescribe drugs for the sick. Is it not fair on the part of the laity and those of the medical profession qualified by reason of special skill obtained only through years of study and the expenditure of considerable funds, to expect legislation in the future looking toward their protection? Everything is shaping toward this end. Its final consummation will be another step in the right direction. By retaining membership in your special society and contributing to its cause you will be a participant in a reform which will have a far-reaching beneficial effect upon society and the honored profession to which you belong. As the time draws nearer the restrictions are gradually but positively becoming more rigid. Compare the requirements for admission to the Triological Society and the American Academy of O., O. & L. of only four years ago

with those of today and draw your own conclusions. In the case of the O., O. & L. Society if we hope to stand on a par with other societies we will, no doubt, be obliged to hold to the same standard of requirements for admission. No one can afford to be blind to the fact that the world is progressing. G. W. M.

THE WEBER-SCHWABACH PARADOX

IN closing the discussion of a paper on the subject, "Some Remarks on the Weber, Schwabach and Rinné Tests," presented before the Academy of Ophthalmology and Oto-Laryngology at its last meeting in Philadelphia, the editor referred to what he chose to term the Weber-Schwabach paradox, and its significance.

In the case of obstructive disease—for instance, middle ear *catarrh,* the Weber is referred to the affected side in the case of a unilateral lesion and to the worse hearing side in the case of bilateral lesions; and at the same time the bone-conduction is better (longer) than normal on the affected side in the case of a unilateral lesion, and longer on the worse-hearing side in the case of bilateral lesions so long as the inner ear remains unaffected.

In the case of obstructive disease, pure and simple, the combination of Weber to the worse-hearing side with greater lengthening of bone-conduction on the same side are consistent findings. It, however, happens now and then that this consistency is lacking. For instance, a patient with impairment of hearing, let us say of the right side, because of a middle-ear *suppuration,* with a normal left ear, reveals the Weber distinctly referred to the right ear, even when the fork is carried several inches to the left of the midline of the skull; but when the fork is applied to the mastoid, in taking the so-called Schwabach, instead of finding the bone-conduction longer on the right than on the left it is found to be shorter. Surely this is paradoxical. This is an observation that has been made by others, and not finding any explanation for it they arrived at the conclusion that the Weber is deceptive and, therefore, an unreliable test, not to be depended upon. The editor has observed the same lack of consistency of these two tests every now and then, and as a result felt as skeptical as others did about the value of the Weber test. More recently he found an explanation for the paradox that

seems entirely reasonable, and has confirmed it in those cases in which the opportunity was afforded.

The editor believes that the Weber-Schwabach paradox will eventually prove to be an important sign of mastoiditis. In the case of mastoiditis with external thickening of the soft parts and tenderness, the Schwabach could hardly be expected to be as long as in those cases where there is no external thickening, because the thickening of the soft tissues would tend to act as a cushion, inhibiting thereby the transmission of sound waves. Again the coincident tenderness prompts the examiner to use a little less pressure with the tip of the fork handle than in the average case without tenderness. This is not the kind of case that the editor refers to; besides the presence of an external periostitis is sufficient evidence of mastoiditis to make the paradox an unessential additional sign. The cases of mastoditis where the paradox may be of greatest value are those in which there is practically no gross external evidence; namely, those in which there is no external swelling or tenderness over the mastoid.

In the case of mastoditis where there is softening of the bony trabeculæ, granulation-tissue and pus within the mastoid spaces including the antrum, the sound waves do not reach the auditory apparatus as readily as in the cases with a normal mastoid. This hindrance tends to shorten the bone conduction via the mastoid; more so than the route from the midline of the skull as occurs in the case of the Weber method.

In making the test it is important to use a stop-watch and time the Weber as well as the Schwabach. The detail citation of a single case will bring out the essential features of the paradox.

A young woman under suspicion of a mild grade of mastoid empyema on the right side, and with a normal hearing left ear, revealed the Weber strongly lateralized to the right side, even when the fork was placed four inches to the left side of the midline of the skull. Furthermore, the Weber was lengthened thirty seconds; accordingly, the Schwabach was anticipated to be lengthened on the right side approximately thirty seconds. Instead, it was found to be normal to slightly short of normal, on repeated tests. The diagnosis of mastoiditis was made and confirmed at operation.

Lest someone might think that the editor wishes to limit the interpretation of the paradox to the above character of findings only,

he desires to call attention to the fact that it may manifest itself in several forms. Occasionally the Schwabach may be normal when lateralization and increased length of the Weber would suggest a lengthening of the Schwabach. Again, the Schwabach may be found to be lengthened but considerably less so than might be expected from the character of the Weber.

The editor invites other otologists to look for the paradox critically, with the object of determining its exact value as a sign of mastoiditis. G. W. M.

STANDARDIZATION OF TUNING FORKS

At the recent meeting of the O. & O-L. Society, held in Philadelphia, one of the morning sessions was devoted to papers upon the hearing tests. The discussions, as well as the papers themselves, brought out the very prevalent lassitude and indifference shown towards these tests. There were renewed evidences of the lack of uniformity in methods, and naturally the conclusions were still indefinite in their values. It was certain that the forks were not standardized, and it was more certain that whatever forks were used, standardized or otherwise, the average examiner was unfamiliar with the normal reading of his forks. The Society finally resolved to appoint a committee to co-operate with similar committees from other national nose and throat bodies for the purpose of making investigation and recommendations upon the subject.

No doubt the committee in due time will meet, deliberate and decide upon certain methods; it will make recommendations as to standardization of forks; it will dust the cobwebs off many monographs on the subject and will freshen up many facts already established. The field has been so well covered and examined that it will be surprising if there is any new light brought to bear. The committee, no doubt, will do all these things in a clear, concise summary; something full of gist and full of authority. But there is one thing the committee will not do. It cannot, by its investigations or recommendations, make a short cut to a knowledge of the hearing tests. "Referring it to a committee" usually conveniently ends a discussion, shelves a matter indefinitely, or sidetracks it for some seemingly unsurmountable obstacle.

Not long ago a committee did a similar work in studying atrophic rhinitis; a report was rendered after a considerable amount of work had been done. Certain negative facts were established; certain already proven facts were confirmed; but since this committee reported little investigation or interest has been shown in the subject. It is to be hoped that the same will not be true of the hearing tests.

There is no royal road to learning. Work, study and attention alone produce results. No matter what may be the report of the committee on the hearing tests, the individual practitioner will have to learn them and value them by his own efforts. The usefulness of these tests has not passed and their valuation is commensurate with the carefulness, thoroughness and attention given them. D. M.

$4,214,746 for Lost Eyes.—Protection of the eyes of workmen is one of the greatest problems in industry, according to Harry A. Mackey, chairman of the Pennsylvania Workmen's Compensation Board, in an address to the Kiwanis Club in the Bellevue-Stratford.

"The awards for the losses of eyes in Pennsylvania since the board was organized in 1916 have totalled $4,214,746," Mr. Mackey said.

"This is tremendous compared with $998,000 awarded for the loss of 527 legs, $801,000 for 410 arms, $2,294,000 for 1,351 hands and $1,029,000 for 703 feet. The eyes lost totalled 3,364.

"I think it is fair to say the employer has done more to protect the eyesight of employes than the employes themselves. There is a spirit of indifference and recklessness among workers in discarding goggles and protection devices. Education is our only means of arousing full spirit of co-operation in the employe."—*Phila. Evening Bulletin,* October 11, 1921.

A MODIFICATION OF THE BRIGGS TENDON TUCKING OPERATION *

William McLean, M.D.,

New York, N. Y.

IT was in looking through the section devoted to Clinical Notes, Suggestions and New Instruments of the 1909 issue of the *Journal of the American Medical Association* that I first saw a description of the Briggs tendon tucking operation, and the simplicity of the method immediately appealed to me. In order to do this operation the Briggs tendon tucking instruments are necessary. I tried at the time to get a set of the instruments, but the instrument-houses did not seem to know much about the set, and I was given to understand from them that the operation had not been thoroughly perfected and the instruments were not then on the market.

The procedure slipped my mind for the time, and it was not until 1917 that I again found any mention in the literature of the Briggs operation, and that was in an article entitled, "Author's Muscle Shortening Operation," published in the *Southern Medical Journal* by the originator of the method.

I purchased a set of the instruments, and in doing a few of the operations by that method I soon discovered why so much time had probably elapsed since the inception of the operation and the placing of the method before the medical public, and why the operation had been slow in gaining friends. Judging by my experience and the comments of other operators, the sole drawback to the operation is in removing the little silver link that is used to hold the shortened muscle-tendon in a firm grip until a new and thorough union can be secured in the shortened muscle.

Described briefly, the Briggs tendon shortening operation is a method of operating whereby the muscle to be shortened is exposed, drawn up as a loop through a little oblong silver link to obtain the desired amount of shortening, and then the link is squeezed together sufficiently to hold the looped tendon firmly in

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

its grasp, and is not removed until the crushed tendon has thrown out adhesive bands and become thoroughly cemented together in its shortened relation. There are no silk sutures required for the operation, and if the link is applied correctly there is no need for worrying about any possible tearing out of sutures, as has been known to occur in the advancement operation where the shortened muscle is retained by silk sutures.

The Briggs tendon tucking set of instruments consists of a pair of forceps to hold and squeeze the silver link, a specially-shaped tendon hook, a pair of cutting forceps for use in removing the link and the little silver link. Little burrs protrude on the inner or approximating surfaces of the silver link to prevent the tendon from slipping after it has been secured in its new position by the silver link. Each jaw of the forceps has a transverse groove near its end into which the link is placed, and the jaws are closed just enough to hold the link. In this position a ratchet prevents the jaws from opening further.

As I have mentioned before, this operation has appealed to many as it did to me on account of its simplicity, but after a trial it has been discarded because of the difficulty in removing the link. It is because I have introduced a method of removing the link that is as simple as is the applying of the link, that I am bringing this operation to your notice.

This operation is applicable to any case in which a shortening of an ocular muscle is indicated, and the operation can be done in much less time than any other method of shortening or advancement that I have known. That is, when an operator in doing an advancement has bared his muscle and is just beginning the real task of the operation, whether by the Worth, Wells, Lancaster, Reese, or other method of shortening which requires so much time, instead, with the Briggs method, the operation can be finished in five seconds and there is no worry about any tearing out of sutures because sutures are not used.

I have done the operation under general and local anesthesia, the governing principle for the choice of anaesthetic being the same as in other muscle operations. Besides the Briggs set of instruments, about the same instruments are used as are required for a tenotomy. Thus far I have applied this operation to the trophias only, but can see no reason why it is not just as applicable to the

phorias. Where only a moderate amount of shortening is to be obtained I include conjunctiva, capsule and muscle tendon in the grasp of the link, but for more extensive shortening it is better to bare the muscle and include muscle tendon only within the link. If conjunctiva, capsule and tendon are to be included, I make an incision along the upper and lower borders of the muscle from the insertion of the muscle in the sclera as far backward as the intended shortening. If only the muscle tendon is to be included, then an incision through the conjunctiva and capsule over the center of the muscle from its attachment backward far enough to give a working space to draw forward the muscle. Two pairs of forceps are now applied, one at the insertion of the muscle and the other as far back as the intended shortening, and the two forceps are approximated to note that the estimated amount for shortening is correct. A single blade of a broad serrated forceps or a rasp is now scraped along on the under surface of the muscle to scarify the surfaces to be made adherent. An ordinary tenotomy hook is now placed under the muscle by an assistant, and the operator holds the forceps with the link grasped in its jaws in one hand, and with the other hand threads the Briggs tendon hook through the link. As the assistant raises the tendon slightly away from the eyeball, the operator picks up the tendon on the Briggs hook and draws the tendon up into the link, in such a manner that the long axis of the link is crosswise on the tendon near its insertion into the sclera. If the amount of shortening be estimated in millimeters, that amount can be obtained, as there is a millimeter scale on each side of the jaws of the forceps for that purpose. As soon as the correct amount of shortening is made, the forceps are closed vigorously until the link is squeezed together and firmly grips the loop of tendon. The hook is now removed and by opening the ratchet the forceps open, releasing the link from its jaws, and the operation is complete. Loop and conjunctiva immediately cover the link and no irritation to the eyelids or structures occurs. The loop may or may not be excised. I have not found this necessary and in every case I have operated, a complete absorption has occurred after a reasonable length of time.

In the after-treatment the case is handled very much on the same lines as a tenotomy. The silver link may be removed in from 10 to 14 days. With one case I left the link undisturbed for 21

days, watching the case to note any untoward symptoms, but none occurred.

The real task of the operation, as described by Briggs, is the removal of the link at the 10 to 14 day period, and it is because of this difficulty that the operation has not been more generally used. Generally speaking, everyone who sees the link applied and the ease with which the operation is done is delighted with the procedure until he encounters the difficulty of removing the submerged link.

Briggs description of the removal of the link is as follows: "For removal of the link a scissors forceps with wedge spaded blade above and flat blade below is used to divide each end, when the severed halves of the link may be removed with small tissue forceps."

The difficulty lies in the fact that the two severed submerged halves of the link are hard to pick up and extract.

My modification consists essentially in the removal of the link. For this modification two short threads of heavy silk are tied to each end of the link before the link is placed in the forceps. The ends of these silk threads are left about 10 mm. long and their purpose is to aid in locating and removing the submerged link. At the time the link is to be removed, the operator uses two pairs of mouse-toothed forceps and the cutting forceps. I have found it more satisfactory to substitute for the scissors forceps of Briggs, an ordinary pair of watchmaker's cutting pliers, known as side cutting pliers, as they are stronger, a better grip can be obtained on the pliers, they are used with greater ease and better adapted to cutting the silver link.

For removal of the link, and I might say, it remains submerged from the time it is applied until brought to view by traction at the time of its removal, the operator with a pair of forceps in each hand uses one pair to grasp the silk threads at one end of the link and by gentle traction raises the link out of its bed. The closed points of the other forceps are inserted along the line of opening made by the silk threads until they come in contact with the link, which can readily be noted by the feeling of metal touching metal. The forceps are now opened slightly and advanced to grip the link. The forceps which were used to make traction on the silk are now used to push back the overhanging conjunctiva and as soon as this is accomplished these forceps are abandoned. The cutting

pliers are now applied to the link and it is severed 1 or 2 mm. from the end, but not at the end. The silk at the other end of the link is now grasped and the link is exposed in the same manner as before. The cutting pliers are now applied, and care is used to insure that the opposite side of the link is cut. Whereupon with the forceps grasping the silk of each end, the link is extracted in two pieces, one from each side. The shape of each piece of the link will be like a fishhook. This completes the procedure and nothing further need be done unless the case is one of considerable deviation, when as in the other form of advancement, a tenotomy may be advisable. If so it may be done either at the time of placing the link, at its removal, or later.

With the cases I have operated by this method it has been my purpose to discover how much shortening I could obtain from the one procedure, so I have not resorted to a tenotomy of the opposing muscle, either at the time of applying the link or at its removal, except for special reasons.

Most of the cases I will report were of considerable deviation and most of them were of the concomitant convergent variety, possessing as they usually do an amblyopia exanopsia. It was impossible to measure these cases with a phorometer, or with prism deviation measurements, so I resorted to the perimeter to estimate the degree of deviation.

I will not burden you with a report on all the cases I have operated by this method, and as I have not had time to gather them in a comprehensive table, I will report but a few, picking out one from each type or illustrating one where the operation has been varied.

The advantages of this operation are:

Simplicity and greatly shortened duration of time for operation, as the operation can be done in about the same time and with the same ease as a tenotomy.

Elimination of sutures.

Absolute security from slipping or pulling out of sutures.

Report of Cases.

A. T., age 10 years. Concomitant convergent strabismus of long standing. Amblyopia in squinting eye.

Perimeter measurement of 42 degrees deviation.

Has worn glasses of 1.D, with no appreciable correction of squint.

Atrop. test O. D.+5.25=V. 20/20 dif.

O. S.+5.50 &+75 axis 90=V. 20/100.

A glass of more than 3.D would not be tolerated and this corrected his squint a little. On account of the boys tormenting him about his squint his mother asked me to operate. A Briggs operation was done under general anaesthesia, the loop consisting of conjunctiva, capsule and tendon. The loop was drawn up 8 mm. into the forceps. This means 16 mm. of shortening with the loop on the stretch. When the link was released from the forceps there was a slight divergence, but the patient was under a general anaesthetic. About two months after operation he measured about 16 degrees perimeter and had a noticeable squint with his glasses on. Ten months later, or about one year ago, I made a curious discovery—that he would then accept almost a full correction, and with that correction on there was no noticeable squint. He came in to see me a few weeks ago and the eyes were apparently straight. With the cover test there was a slight convergence, but that was corrected on uncovering the second eye. The vision of the eye, which was his squinting eye, has improved to 20/50.

Case 2.—E. S. In September, 1918, while I was on an auto trip and spending 48 hours in a small town, a doctor friend induced me to perform a tenotomy for divergent strabismus on one of his patients, a woman 26 years of age. The right eye turned to the extreme outer corner and the vision of that eye was poor. With an improvised tenotomy hook, a pair of scissors and forceps, a full tenotomy of the external rectus was made, but this corrected the deviation only a little over one-half. The patient had agreed that if I did not get the correction desired she would later come to New York for further corrections. In November of that year, while the vision of the divergent eye was but 15/100, I was able to make a phorometer reading of 22 degrees exophoria for distance. A Briggs operation was done on the internal rectus of the squinting eye enclosing conjunctiva and tendon in the loop. Two weeks later when the link was removed there was an exophoria of 6 degrees. As the patient lived at a distance I was asked to make an effort to correct the 6 degrees.

I advocated a partial tenotomy of the external rectus of the

other eye and was fortunate in getting orthophoria for distance with an exophoria of 6 degrees at the reading point. I have not seen the patient since, but she has on two occasions sent me word that her eyes are straight, and that she is comfortable.

Case 3. M. K., age 20. Diag. Concomitant convergent strabismus on a refractive error of hyperopia with hyperopic astigmia.

Atrop. test O. D. 20/50+3. and + 3.50 axis 110=V. 20/30.
O. S. 20/70+3. and + 3.75 axis 95=V. 20/30.

In her glasses, she was wearing practically a full correction.

While this young lady had equal vision there was no tendency to fusion, and I could not measure her deviation either on the phorometer or with prisms. With the perimeter she showed a deviation of 45 degrees. The Briggs operation was done under a local anaesthetic, the muscle tendon only being drawn up in the loop, and the eyes were straight when the operation was finished. This operation was done about a year ago, and subsequent to removing the link it was found that there was perfect orthophoria with the Maddox rod, and 2 degrees esophoria with the Stevens for distance, and an esophoria of 4 degrees at the reading point. A test on the 23rd of last month was esophoria 4 degrees, Maddox; 0 degrees, Stevens; with 6 degrees esophoria at the reading point.

Case 4. J. S., age 19. Diag. Concomitant convergent strabismus of the left eye since early childhood with amblyopia. He was wearing the same correction that had been given him years ago by a British oculist, and in an atropine test I found his correction approximated his atropine test. The perimeter deviation was about 45 degrees. The Briggs operation was done on the left eye, catching up muscle tendon only in the loop. This operation was done nine months ago. The loop was pulled into the forceps the full length but we did not succeed in obtaining full correction. I may be obliged to do a subsequent operation to get a complete correction as there is now about 10 degrees deviation. We are trying stereoscopic exercises to see what result may be obtained in his case.

Discussion

D. DeWayne Hallett, New York, N. Y.: The Briggs operation is as good as any that I have used, and Dr. McLean's modification of the method is the one great improvement which

will remove the only real obstacle to the success of the operation. My last case is perfect. There was no pain and no other trouble. The operation is so quickly performed as to be a joy.

G. E. G. Norton, New York, N. Y.: I might say that in addition to the advantages that Dr. McLean has claimed for the operation, I feel that he might claim another, which has not been mentioned; and that is the frequency with which we find hyperphoria following reefing and tucking operations to be greatly lessened in the Briggs operation. Of course, we do not know how many of these hyperphorias are pre-existent but not demonstrated because of our inability to use prism displacement and the phorometer. It is evident that in the Briggs operation there is less hyperphoria following. I base this statement on the observation of Dr. McLean in this case.

George A. Suffa, Boston: These varieties of muscle operations appearing every now and then have always been interesting to me. I am always impressed with the way these new operations are constantly coming into the field. This is one of the features of eye-work that I have noticed for years. To me, it shows that there must be something wrong, somewhere, with muscle operations. It seems to me that after so many years of operation of this nature we could arrive at some definite rule or some fixed operation. Every year someone comes out with a new operation, and someone modifies it. The modification here is slight—merely the removal of the little link. I have not done this operation, but it is certainly a very simple one. I have seen two of Dr. McLean's cases. The feature that I do not like about any loop operation, or any operation that is liable to stretch a muscle makes it difficult to accurately gauge the tuck, which I consider essential. A hyperphoria of hypophoria is also more likely to be produced, which is also true of all advancement operations. My own operation does away with these risks and is positive in its results.

William McLean, New York City: In reporting the cases in connection with this operation, I have picked out only those that illustrate a particular type of deviation, or an enormous deviation, or one where I varied the operation somewhat.

It is my plan to measure each case before any surgical interference is resorted to, and to measure again after the result is obtained so that the actual correction may be determined. For

these measurements I have used the phorometer where possible, but where the deviation is too great or the amblyopia prevents, I then resort to the perimeter for an estimation of the deviation.

Case 3 illustrates how much it is possible to correct in some patients at one operation. This patient presented a 45 degree perimeter deviation. The eye turned toward the nose so completely that no sclera was showing on that side. In this case, by a single operation of shortening the external rectus, the eyes were brought to orthophoria as measured by the Stevens phorometer. The loop of muscle was drawn up as far as possible between the jaws of the forceps. I had estimated the shortening required after I had bared the muscle so I knew in a way how much of the muscle should be pulled up as a loop. To do this I apply two forceps, one at the insertion of the muscle, the other as far back on the muscle as it has been dissected, and the two portions are apposed to note if sufficient shortening can thereby be obtained. If my estimations are correct, I then proceed to apply the link. My assistant now uses the same two forceps I used and puts the extreme ends of the looped muscle in apposition just as I had previously done, and as he apposes the two ends I draw up the loose muscle within the link with the special muscle hook.

Dr. Suffa: Do you mean that you pulled the muscle up?

Dr. McLean: Yes, as the assistant pulls the two end portions of the muscle together (the tendon at its insertion and that portion of the muscle as far back as it has been dissected) I draw up the slack, as it were, into the link. When the proper amount of muscle has been drawn through the link the forceps are closed vigorously and the link thereby squeezed together so that the muscle is held firmly within its grasp.

As one of the discussers has stated, there is no danger of producing any hyperphoria with this operation if the link is applied squarely on the muscle as the normal insertion of the muscle has not been disturbed.

W. H. Phillips, Cleveland, O.: Did you ever find that, six months or a year after the operation, you have a loss of the correction obtained? In other words, the esophoria returns.

Dr. McLean: I can use the case previously cited as an example. In this one case with 45 degrees of deviation where I got a 2 degrees of esophoria with the Stevens test, and orthophoria with

the Maddox rod, the patient came in about a year after I did the operation. There was no hyperphoria, and she showed orthophoria with the Maddox rod and 2 degrees of esophoria with the Stevens. This was practically the same as what she had shown one month after the operation. I think that she still retains 8 degrees of esophoria at the reading point—a practically stationary result. She has 20/30 vision in each eye.

Dr. Suffa: Is she using both eyes?

Dr. McLean: I think she is beginning to now.

The Barraquer Intracapsular Cataract Operation.—A. S. Greer and R. Pacheco Lura, *Amer. Jour. of Ophthalmology,* August, 1921. No modification of the Smith-Indian technic had been devised until that of Barraquer, of Barcelona. The method has as its basis the production of a vacuum by means of a special motor-driven apparatus. This causes a small cup to adhere to the anterior capsule of the crystalline lens. Simultaneous vibrations are transmitted to the fibers of the zonula. It is claimed by Barraquer that these vibrations rupture the fibers of the zonula, thus permitting the extraction of the lens with very little traction upon the ciliary body. The operation with slight modifications by the originator may become the operation of the future, since it appears the safest of all intracapsular operations. W. G. S., Jr.

ELECTROLYSIS FOR MOLES, WARTS, ETC. ADDENDA*

James A. Campbell, M.D., F.A.C.S.,

St. Louis, Mo.

THE alarming increase of cancer has been brought to the attention of the medical world repeatedly for a number of years. Much time, talent and money have been devoted to its study, and as yet we do not know its cause and are often helpless in reference to its cure *after it has become firmly established.* This fact is well known and generally conceded; it is more easily *prevented* than *cured* if taken in its incipiency.

Dr. W. J. Mayo, in his inaugural address at the Clinical Congress of the American College of Surgeons, in New York, in 1919, said, "One woman in eleven and one man in thirteen die of cancer." Of course, this includes cancer anywhere on the body or its organs. But if we will recall the cases of cancer of the face or eyelids which we have seen or read about, we know that almost all of them began originally in some seemingly innocent mole or warty growth which had existed sometimes for years without irritation or trouble, and then began to degenerate and be transformed into a positive cancer. Hence, if by any means its further progress can be stopped, surely this is a consummation devoutly to be wished for. Therefore, I again bring the subject to your attention.

At the 1918 meeting of this Society I offered a paper on the treatment of moles, warty growths and other neoplasms on the face and eyelids, especially when they begin to show signs of cancerous degeneration, advocating electrolysis as the most advisable, safe and sane treatment, in preference to other forms of treatment generally advocated, giving my reasons for same.

The paper was followed by a very interesting discussion and certain questions were asked concerning the points made. I was unable to be present at the time and since then several inquiries have been made. Hence I take the liberty to present four recent typical cases, which will, I hope, fully answer the queries made.

Mrs. J. C., age fifty-eight, had a small warty growth on the

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

margin of the inner upper eyelid for a number of years. It gave her no trouble in any way, until about three months before I saw her. It then began to itch, was red and irritable. The upper eyelid was swollen with enlarged turgid veins, and the whole eye was painful. Eversions of the eyelid revealed a spongy granular-like growth, 3.5 mm. broad. It was not a meibomian gland tumor, although at first sight it resembled it, for there was no linear swelling either in the outer or inner eyelid, and the growth seemed to be elevated from the surface rather than of a deeper origin.

She had used domestic remedies and had consulted several physicians in her vicinity. All of them pronounced it a serious, threatening condition, and advised her to go to the city for treatment. The electrolytic needle was passed through the base of both growths and she was told to report to me again in two weeks. At the end of that time there was very little left of either tumor. A second treatment completed the work. I saw her again after five or six weeks, when the eye seemed perfectly normal.

The second case, a man, age fifty-four, had a warty-like growth on the outer ciliary margin of the right lower eyelid, about the size of a large pea. It had been there for some years without the least evidence of trouble. But for a month or so it had begun to itch, with little sharp pains at times, and the summit looked red and angry. In other words, the process of degeneration had commenced.

He was somewhat alarmed about it because some years before he had a small growth on the left cheek which had gone through the same process. It was pronounced cancerous by a reputable skin specialist, who used X-ray on it three or four times without result. Then dioxide of carbon freezing was tried, but it returned again, and it was not until electric cautery was used that it succumbed.

The electrolytic needle was passed under the base of the growth lengthwise and perpendicularly. There was no bleeding. In two weeks the growth was entirely gone and not the slightest irritation remained.

The third case was on the right side of the nose of a man forty-five years old. It had been there for many years, a flat whitish elevation 12 mm. long by 5 mm. wide, being elevated 3 mm. It had never given him the least trouble until a month or two before I saw him. It then began to show a red irritable centre and to be a little

tender to touch. In appearance it looked like a sebaceous tumor, but a small careful incision showed it to be a dense fibrous-like formation down to its very base. It is this particular form of growth which often requires repeated treatments. As is well known, the electrolytic action is as follows: The needle is fixed in the negative pole electrode. The opposite moistened sponge electrode is attached to the positive pole. The tumor base is transfixed by the needle, then sponge positive pole electrode is applied to the palm of the patient's hand and immediately electrolytic action begins. The water of the tissues where the needle is fixed is decomposed into oxygen and hydrogen. This disruption takes place because the hydrogen goes to the negative pole and the oxygen to the opposite pole. This is also the case with salts of the tissue—the acids for the one pole, the bases to the other. Thus the denser the growth the less rapid the action of disruption is.

In the third case the treatment was the usual one. The needle was passed through the base of the tumor, several times one way, and likewise from side to side. In ten days the growth was less in size, but still persisted. It was necessary to repeat the operation five different times to remove it entirely.

Brother Gerardus, of the Christian Brothers College, had a rough elevated excrescence on the upper tip of the right auricle for a number of years; recently it began to itch, and look red and angry. One application of the electric needle entirely removed it. In ten days it fell off leaving parts clean and normal. as verified by his letter here presented.

This answers the question, "How many times do you repeat the operation?" I answer, as often as necessary to end the growth. Generally once is sufficient, especially if the tumor is a mole or wart and is not too large.

No especial dressing is necessary, but the patient must be cautioned against any attempts to remove the scab which forms. It will generally loosen up and come off in ten or twelve days. In the meantime the true skin is forming and being protected by the scab; very little, if any, scar will follow.

Discussion

J. R. McCleary, Cincinnati, Ohio: Dr. Campbell's paper is so valuable that it is only necessary to express our appreciation

of what he says and of his good results. His great care in technique is the secret of his good work. He brings out the little point of itching, where the patient unconsciously begins to assist the irritation mechanically. That is the time when one should begin to pay attention to these small growths.

He speaks of the percentage of deaths due to cancerous conditions. I think that it is *a propos* now, inasmuch as it emphasizes the necessity of calling attention to the great increase in these cancerous conditions. I want to thank him, and to assure him that this is the line of work that we are trying to do. It is very high-grade work, and I recommend it to the rest of you.

H. D. Schenck, Brooklyn, N. Y.: How long did Dr. Campbell apply his current? And how strong?

Dr. Campbell: Four or five milliamperes, until the hydrogen bubble begins to come up white and the bubble comes out at each end of the puncture. Then I stop. Sometimes it is ten seconds and sometimes longer.

Neil Bentley, Detroit, Mich.: Did you inject novocaine before you employed the current?

Dr. Campbell: No, sir; to do that is almost as painful as using the needle; it takes only five or ten seconds.

Dr. Bentley: Dr. Rollin Stevens, who is a dermatologist in Detroit, uses the same method; and I have used it. I usually make one application of three minutes. In a lot of cases one application will not suffice. Stevens says that he is rather afraid of starting anything that he cannot finish in one application. He has devised a method by which he can run through these growths perhaps half-a dozen needles; and all six are used at one time. By this method you can give a more intensive treatment.

One of the New York men has reported a case in which the electrolytic action stimulated cancerous growth. I had a case that I was worried about, to which I had given two or three treatments with incomplete results. I turned it over to Dr. Stevens, and he ran the six needles through at one time, and cleared up the case at one sitting.

G. A. Suffa, Boston, Mass.: Has anyone had experience with radium in such cases?

Dr. Campbell: In the first stage I like electrolysis the better;

when the condition has become cancerous radium is the thing to employ.

H. S. Weaver, Philadelphia, Pa.: I should like to ask Dr. Campbell whether he has watched these cases over a period of years. I have been talking to a man in Philadelphia who has done a great deal of work with radium, and he said that many who had been treated with electrolysis for cancers about the face for many months within eighteen months afterward had developed a secondary cancerous growth of the glands of the neck. This doctor advised against the use of electrolysis in these cases for that reason. The primary results are good but the secondary manifestations are always fatal. You can do nothing with them after they attack the glands of the neck.

I had a case of simple cancer of the lip and he advised against using the electrolytic needle on it for that reason. He showed me a case that had been treated eight or ten months previously for cancer of the lip and had developed a hopeless cancer of the neck.

Dr. Campbell: I have been doing this for twenty-five years or more, and I have never seen a case in which the growth was not thoroughly and permanently removed. I would not attempt it if it had spread over a large surface. If you take the thing in the beginning the result is good. In twenty-five years I must have had two hundred and fifty cases, and I have never had such recurrences.

I. L. Moyer, Columbia, Pa.: I should just like to ask this question: Whether chromic acid would do good in these incipient cases? One of the gentlemen said that he liked the idea of thoroughly destroying these growths when they first come. Dr. Turtz, of the New York Ophthalmic, showed a case of cancer of the ethmoid that he had treated with chromic acid. Afterwards I came home and treated a case of cancer of the nose with it; my first case was successful.

G. A. Suffa, Boston, Mass.: I have removed quite a number of these growths of the lid, and have always clamped them, injected cocain into the lid, removed them, curetted, and with the actual cautery cauterized the base. I have never had one return.

Dr. Campbell: With reference to using chromic acid, in my first paper I said that the use of acid in such growths I do not approve of. I would not think of using electrolysis for cancer of the ethmoid. I have seen more cancers come after surgical treatment

and when acids were used than in any other way. Two cases were sent to me recently. One which had existed for several years—the cheek and eye deeply involved. The other a similar case commencing several years before from a mold growth. If this case had been treated with electrolysis in the beginning, it would not have been that way. These cases I sent to the Skin and Cancer Hospital, where they had just purchased some radium.

I want to call attention to another fact: We pay a great deal of attention to glaucoma, but there are far more cancers than glaucoma. I would rather have a glaucoma than a cancer. If you had seen this cancer, you would know what it means. There are two forms of epithelial cancer: one, the basal-cell epithelioma; and the other, the squamous. To my mind, it makes no difference which you have; the necessity is to destroy the basal tissue, at the foundation; and the secret of success is in passing the needle down below the growth. It is not nearly so painful as fulguration. This is not recommended for open cancer. I am trying to impress on you the importance of *preventing* cancer by this treatment.

Ocular Manifestations in Encephalitis Lethargica.—Gustavus I. Hugue, *Amer. Jour. of Ophthalmology*, August, 1921. Ocular symptoms appear early and are frequently the earliest symptoms. The existence of diplopia or drooping of the eyelids, should cause the physician to think of encephalitis lethargica. The eye-symptoms are diplopia, ptosis, impaired accommodation, nystagmus, sluggish pupils, optic neuritis, papilledema. The involvement of the cranial nerves in the order of frequency is the 6th, 3rd and, rarely, the 4th. If the patient survives the ocular symptoms improve or entirely disappear. W. G. S., Jr.

SOME POINTS ON FUNCTIONAL HEARING TESTS*

Dudley A. Williams, M.D.,

Providence, R. I.

IT is with considerable hesitation that I offer this brief paper to this Society, and for two reasons: First, that the subject matter is nothing new or original with me; and, second, because quite a number of you will consider what I have to say as of rather a kindergarten nature. My sole reason, however, is to clear up in the minds of quite a few of our membership certain points of technique in connection with Functional Hearing Tests, a vague and erroneous knowledge of which I know exists, and which, as far as I know, have never been incorporated in a paper read before this Society.

It has been said that hardly 10 per cent. of the aurists in the United States are able to make a functional hearing test that will offer a differentiation between the two large divisions of deafness, *i. e.,* obstructive and nerve. I can hardly believe that this is exactly true, but I do know that the method and its technique, which I shall try to describe to you, are not at all in general practice among aurists, and while, no doubt, other methods may prove satisfactory in their hands, still I think you will agree with me that this method leaves little to be desired.

I will first take up the schema that is used in our office, one which is slightly modified from that found in Gustav Alexander's *Diseases of the Ear,* and used and recommended by Dr. George W. Mackenzie, to whom I owe practically all my knowledge of functional hearing tests. It appears on opposite page.

I am not going to repeat the method of making the various tests as they appear. You are all familiar with them, or ought to be, so I will devote my time to emphasizing certain points in their technique.

It seems like a simple thing, but I find aurists who do not seem to know how to whisper. They use a forced whisper with lung full

*Read at the meeting of the O., O. & L. Society, Washington, D. C., June, 1921.

R. Ear		*L. Ear*
. .	Conversation	. .
. .	Whisper	. .
. .	Akumeter	. .
. .	Weber	. .
. .	Schwabach	. .
. .	Rinné	. .
. .	Air	. .
. /	C4	. /
.	C	.
.		.
.		.

of air behind it, instead of a whisper with the lung deflated, using the residual air only. The uniformity acquired by this latter method lends to accuracy, a factor, by the way, exceedingly essential in all hearing tests.

For the Weber, Schwabach, Rinné, and Air tests we use a middle C weighted fork of 256 double vibrations. We use this fork, a sample of which I have here, with weights, because the unweighted ones have decided overtones that are apt to last quite a few seconds and may confuse the patients as to what tone they are listening to. These forks were formerly to be procured abroad, but when the war came the source of supply was cut off, and they ceased to be in the market. I found, however, a fork manufacturer in New York City, The Standard Scientific Company, who was able, after considerable experimenting, to produce forks the equal of the European ones. These forks, to be of service, should be heard by the normal ear via air from 90 to 150 seconds, and while some have been made with vulcanite handles, I found that the duration of the fork and the quality of the tone on bone was interfered with, and after spending the better part of six months experimenting I found the handle of metal to be the better one.

You will see by the schema that there is a plotting for each ear. Our forks run 115 seconds on air and 70 seconds on bone on the normal ear. So each dot in the schema represents ten seconds. There being no way on a rubber stamp to make a dot half the distance at the bottom, it is only indicated by the normal line as shown. The largest number of dots represent the duration in seconds on air and the shortest number of dots the duration on bone.

The line drawn between represents the normal Rinné for this particular fork.

We make our Schwabach, Rinné and Air tests with a stop watch, using our own ear as normal. Hence, after finishing the Schwabach test we know not only whether it is long or short, but the amount in seconds of length or shortness. The same method is followed out with the Rinné test. Not only do we know whether it is a plus or minus Rinné, but the amount of plus or minus in seconds. As regards the Weber test, we do not time it but merely allow it to act as an indicator; in other words, whether it is referred to the right or left or is indifferent.

Now having made these tests, we put the figures in seconds on the proper side of the printed word of the schema, using the letter L for lengthened and S or Sh for shortened. You can readily see that when you have these figures you can plot them on the schema and draw a line between, thus giving you the picture of that particular case of deafness. A word in passing regarding the technique of holding the fork for these tests. I have seen no less an authority than a well-known Professor of Otology whose knowledge of forks and their nodal points was so small that he held the prongs of the fork forward toward the canal and did not remove the fork from close contact with the ear during the entire test. The fork should be held with the end of the flat side of the prong close to the ear; the fork held parallel with the body, prongs downward or upward as is most convenient to the operator.

It should be removed and approximated to the ear at frequent intervals in order that the nerve may not become fatigued during the test. Again, a good way to start the fork to vibrating is to allow it to fall by its own weight on the bent knee. For the Schwabach and Rinné tests, place the base of the fork behind the ear well up on the mastoid, and remove and approximate to the bone at frequent intervals the same as when making an air test and for the same reason.

To return to our schema. After plotting your results from the Schwabach and Air tests with the Rinné test your diagnosis of that case almost makes itself. But to substantiate your findings the tests with the C1 or C 128 D. V. and the C4 or C 2048 D. V. are made. Again we try to get forks within certain bounds as to length of vibration. The C 128 should run from 55 to 72 seconds

on air, and the C 2048 from 54 to 60 seconds, and again we time the tests, using the patient's impaired hearing against our normal ear. This gives us an accurate idea of the amount of shortening for the low and high tones, and combined with our previous results with the middle tone fork, we are prepared to make a pretty positive diagnosis as to whether we have an obstructive or a nerve deafness or a mixed condition. I am presuming, of course, that an otoscopic examination has been made and the condition of the tympanum and canal studied.

The interpretation of the plotting is the only thing that requires judgment. However, if certain facts regarding the behavior of the two types of deafness are kept in mind, this interpretation becomes fairly easy. Rarely does the obstructive case lengthen on bone as much as it shortens on air. In the nerve case the same is true, the bone does not shorten as fast as the air shortens. Remember also that in many cases of obstructive deafness where air is much shortened the nerve is most surely affected also, which accounts for the fact that your lengthening on bone is often out of proportion to the shortening on air. You will find many mixed types with one or the other of the two big divisions, obstructive or nerve, predominating.

Of course, all of this can be arrived at by other means, but in no other way that I am aware of can such a degree of accuracy be obtained. Furthermore, future tests when made give you figures of improvement that are easily explained to the patient. No improvement or steady decline is also shown, and the patients who think they are better, the wish being father to the thought, are checked up and an accurate result is shown.

I think the principal stumbling block in these tests has been the lack of knowledge regarding the proper length of duration that the forks should vibrate. I have seen as many as forty middle tone forks in one instrument house, the audible duration of which, by air, varied from 180 to 300 seconds. Now for the purpose of this sort of test they were valueless.

Given the proper forks and a little practice in their use with a stop watch and you will find not only accuracy of result but that it takes a much shorter time than you think. For instance, you can combine the Rinné and Air in one operation if you have a plus Rinné. You can combine all three in one operation if you have a

short Schwabach, because that usually means a plus Rinné. It isn't always possible to do these short cuts but in quite a large percentage of cases it can be done and time saved.

It offers an intelligent report to send to a distant aurist when referring a patient, and if the majority of aurists reported their cases using these tests in this manner we should be much better able to judge the truth of their premises. For lack of such tests some cases have been doomed to complete loss of hearing that might have been helped. Patients have been told they were nerve deaf when the tests show a distinct obstructive type and *vice versa*. It is not hard to become expert in the use of the tests, and I would like to commend them to those of you who are not already making daily use of them in your practice.

23 Waterman Street.

Discussion

Wm. M. Muncy, Providence, R. I.: I am not at present going to discuss this paper as it emanated from our office. I naturally agree with all that he has said. This method of testing makes it possible for either one of us to make test records and they are equally intelligible to the other. It is especially advantageous when sending reports of a case to another aurist. Dr. Williams is very modest in his presentation of this American-made fork. We all know it is hard to get instrument-makers to do just what you want, and it was only after many attempts that a satisfactory article was obtained. We had many unforseen troubles in having manufactured the right kind of fork and the doctor deserves a great deal of credit for his patience in not giving up the task.

W. G. Shemeley, Jr., Philadelphia, Pa.: I have listened to the paper with a great deal of interest and pleasure because the doctor has recommended a uniform method of reporting functional hearing findings. We read in journals, time after time, a mass of data, and when we finish reading it, we have nothing concrete to base the findings on. Each man seems to follow his own particular bent in making these tests. As has been pointed out there is

nothing hard about the test. It is the result of practice with a little attention to detail.

We have found his fork test useful in another condition, namely, as a suggestion in certain cases of congenital syphilis. Beck and Wilson pointed out some years ago that early in the course of syphilis the Schwabach test is slightly shortened, while the air test remains normal, or is but slightly impaired. At first, there was some doubt about it. Some men questioned the controls used; some questioned the forks and other data. We have had the matter under investigation during the past year and hope to publish in detail the results of this investigation at some future time. Suffice it to say that we have found in 90 per cent. of the cases that the proposition of Beck and Wilson was absolutely true; namely, that when you have a shortened conduction of bone, where the air remains normal or is but slightly shortened, your case, granting it to be atypical in some measure or not, is very likely to belong to the class of congenital syphilis. I strongly urge upon all the members that if possible, when they refer their cases to another man, they have a definite series of data to go by.

Albert W. Greene, Philadelphia: As Dr. Williams says in his paper, a part of this seems almost like kindergarten work for men who are specialists in aural examinations; and yet, after putting in pretty close to a year now, in Philadelphia, taking up postgraduate work and watching some of the best men in Philadelphia make their ear tests, I have learned how unsatisfactorily they are often made, and what unsatisfactory evidence they get on the completion of their tests. It seems, after all, that it is a good way off from being kindergarten work. The minute part of the technique can not be emphasized too strongly. Dr. Williams mentioned the method of holding the fork. Two men who are considered excellent in Philadelphia make a point of holding the fork with the end toward the patient's ear, and do not make a point of holding them at equal distances on consecutive examinations. That should be done, so that the distances are exact.

It is equally important for the examiner to have the fork at the same distance from his ear. In the section of twenty, of which I am a member, we followed out Dr. Mackenzie's advice in practicing before a mirror, so as to get the fork at an equal distance from

our own ears. That becomes a reflex matter after a while; but at first, the fork will be held at varying distances.

It is also important for the individual making the tests to know that his own hearing is normal; and if it is not, to know how much it varies from normal and make allowances accordingly.

In reference to this chart, which is so far ahead of the ones that most men use, I should like to call attention to what seems to me to be a very slight error; the possibility that the vibration by air is 120 seconds.

Dr. Greene (Continuing): Another thing worth drawing attention to is the fact that some men judge the duration of vibration by the feel of the fork with their fingers on the handle. To determine a Schwabach on a basis of this kind is rather absurd. The cochlea is able to perceive anywhere from seventy to thirty thousand vibrations per second. Surely you will know that no index finger can absorb seventy thousand vibrations per second; and if you depend on the finger, you are apt to be several seconds off in perceiving the duration of vibration. The error is charged up to the patient rather than to your own faulty technique.

Dr. Williams did not feel that he had time to go into one or two things. We had a particularly interesting case of a young colored chap, who came to the clinic of the Graduate School in Philadelphia for examination and treatment in the section under Dr. Mackenzie. On his first visit we found that he could hear nothing in his right ear, but had some slight hearing in his left ear. The test in both ears was made with the six meter tube in one ear, and the noise-producing apparatus in the other ear. With all our yelling he could hear nothing. The result of the test shows up on this chart, with absolutely no hearing on the right side and a shortened Schwabach, or bone conduction, 37 seconds, in his bad ear. On the other side (left) he shows an air conduction of 35 seconds on the chart, and a Schwabach of 37 seconds, the same as in the other ear.

It is to be remembered in interpreting these tests on the bone conduction in a perfectly valueless ear, that the reason they show up on this side is that it is borrowed from the good ear. If this ear were bad, too, of course the bone conduction on both sides would be absolutely negative.

The boy's blood Wassermann was practically negative; the

spinal, entirely so. Through long experience, and the fact that bone conduction figured on the chart the way it did, Dr. Mackenzie believed that the patient had syphilis. He was put on mercurial inunctions, and the results were amazing. After one set of inunctions the Schwabach changed from 37 or 38 seconds short to 22 or 25 seconds short. The air conduction on the other side was lengthened, and the bone conduction correspondingly, giving at once the improvement in this ear, which reflected itself in the bone conduction.

That was after two or three treatments. In the course of two weeks this line was going down here (illustrating from Dr. Williams' chart), showing still nerve involvement; and this one, this way, showing air conduction on this side. This shows the improvement that you can see charted there from day to day in graphic form. After having become accustomed to this method it is as easy as the other; and it gives more valuable data, and something that you can look back on and know exactly what the condition was before.

Wm. M. Muncy, Providence, R. I.: One great difficulty in the past has been the failure to differentiate deaf cases into various types. After this is done it will then be possible to find what method of treatment is most efficacious. We have seen cases of pure nerve deafness attributed to anatomical and pathological defects of the nose and throat, which defects having been removed and the patient still losing ground, a functional hearing test and a plus Wassermann showed much unnecessary surgery, let alone loss of time. On the other hand, where there are diseased tonsils a functional hearing test will tell whether there is a nerve deafness present due to focal infection or whether the tonsil simply acts as a catarrhal factor.

It is remarkable what a wonderful amount of knowledge can be obtained when this method of tabulating functional hearing tests is added to a previous thorough aural and naso-pharyngeal examination.

Our cases are gradually falling into certain classes: Those of the pure catarrhal type, being either otosclerosis, middle ear pathology, tubal catarrh or naso-pharyngeal catarrh, and some a little of each, though generally one condition is most prominent. The nerve-deaf cases, due to special toxemias as diphtheria, syphilis, etc.,

the rapid focal infection types as diseased tonsils, etc., and the slow focal infections as in nephritis, diabetes or the gouty diathesis.

There are certain cases which show a gradual slowing up of both air and bone conduction, so that the normal line is gradually pushed up but remains parallel during its advancement, which is very slow. This for want of a more definite name we call the slowing-up hearing of old age.

Thus it is possible to have a more definite idea as to just what the causes are, what we hope to accomplish and a prognosis which is more in keeping with the results obtained by future treatment.

Alfred Lewy, Chicago, Ill.: The schema is the Vienna schema slightly modified, and is used approximately and understood by all competent otologists; the hearing after inflation should be added to it.

I believe that a great deal of the discredit that has come to the otological profession is by reason of treating or advising unnecessary operations for incurable deafness. It is a thing that happens so frequently that I am amazed at the temerity of men who call themselves otologists and who do this type of work. We should determine beforehand which cases are and which are not incurable, and this can be done in nearly all cases by the method described by Dr. Williams.

Holding the fork with the tines flatwise to the ear gives a greater volume of vibrations. However, in using very low-pitched forks many patients are unable to distinguish between the tactile sense and the sound perception. This is obviated somewhat by holding these forks endwise.

As to the diagnosis of syphilis by the shortened bone conduction, there are so many other causes for this finding that I don't think it will enable us to dispense with the blood and spinal fluid examination, but it undoubtedly has some value, which may increase with further experience.

G. W. Mackenzie, Philadelphia, Pa.: I want to thank those who have taken part in this discussion. For the benefit of those who are looking for forks, I wish to say that Mr. Parker, of the Scientific Standard Company, of New York, whom I met through Dr. Williams, hopes to put out a fork within a short time that will answer all our requirements.

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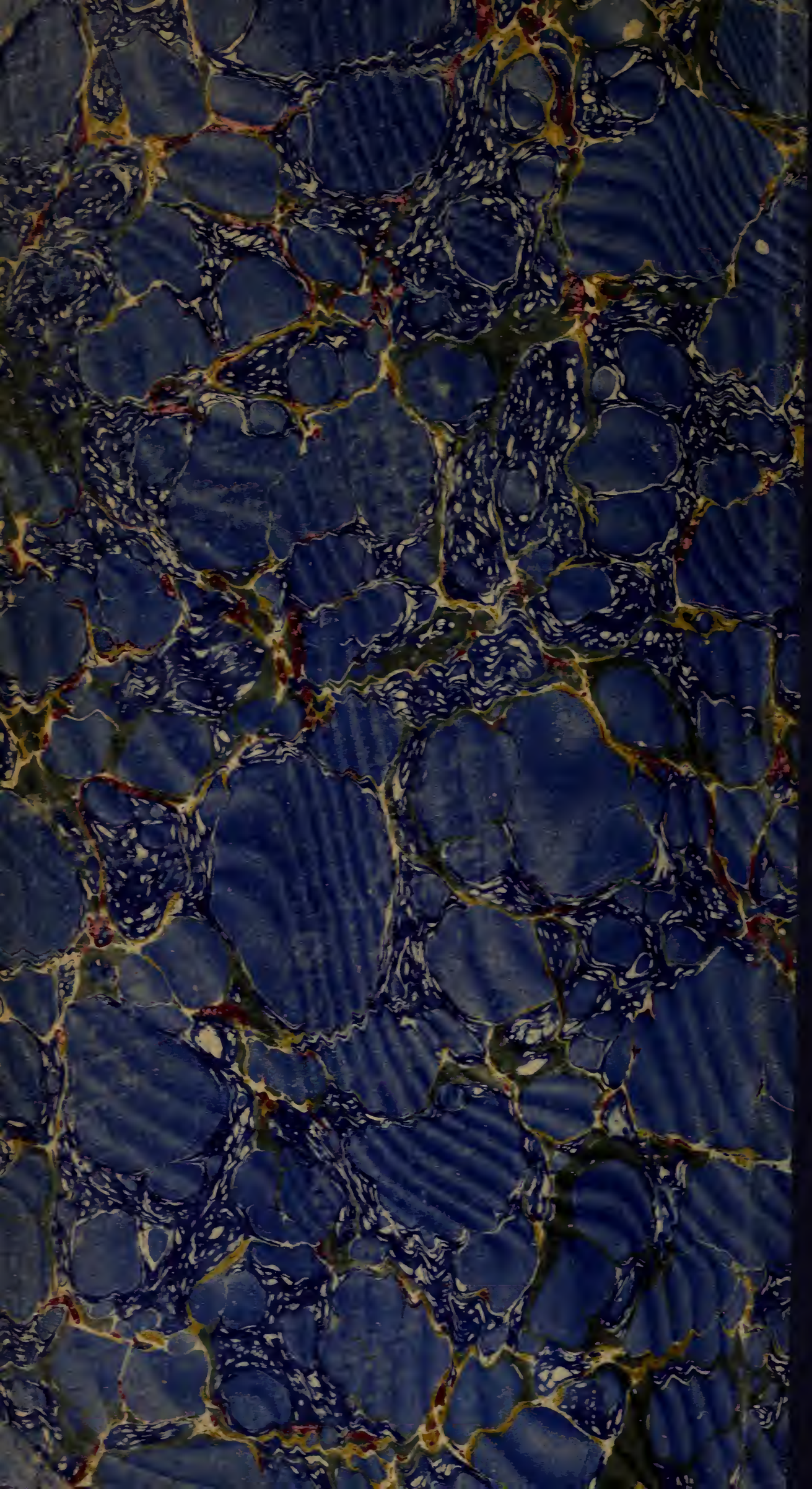
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